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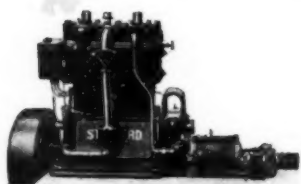
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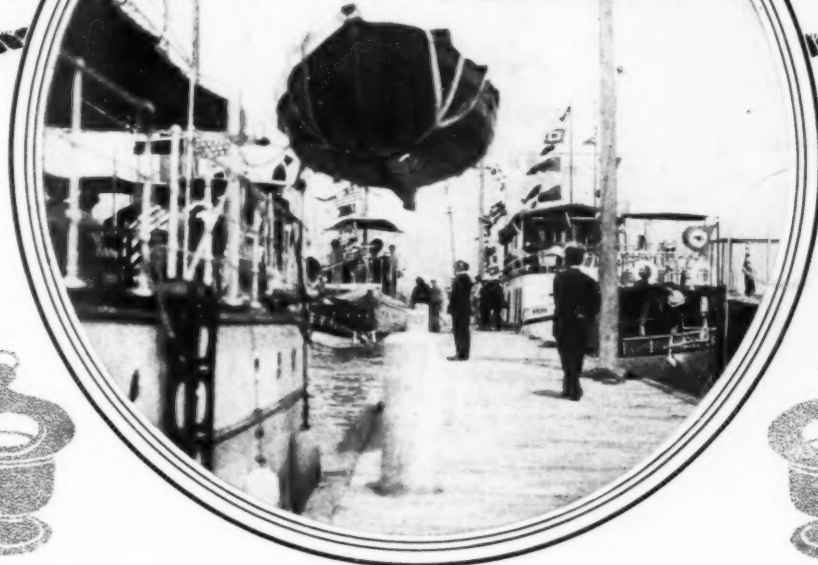
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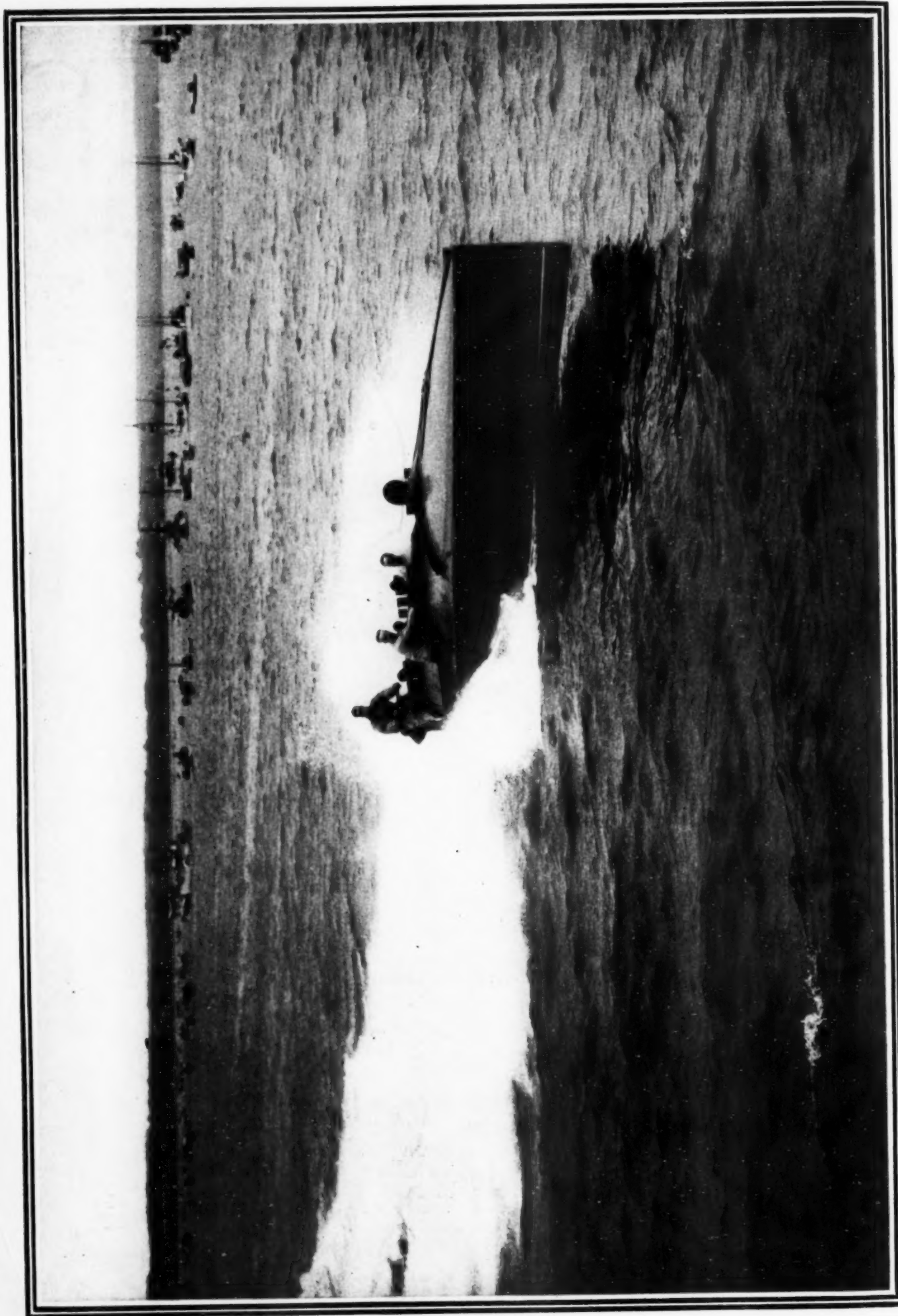
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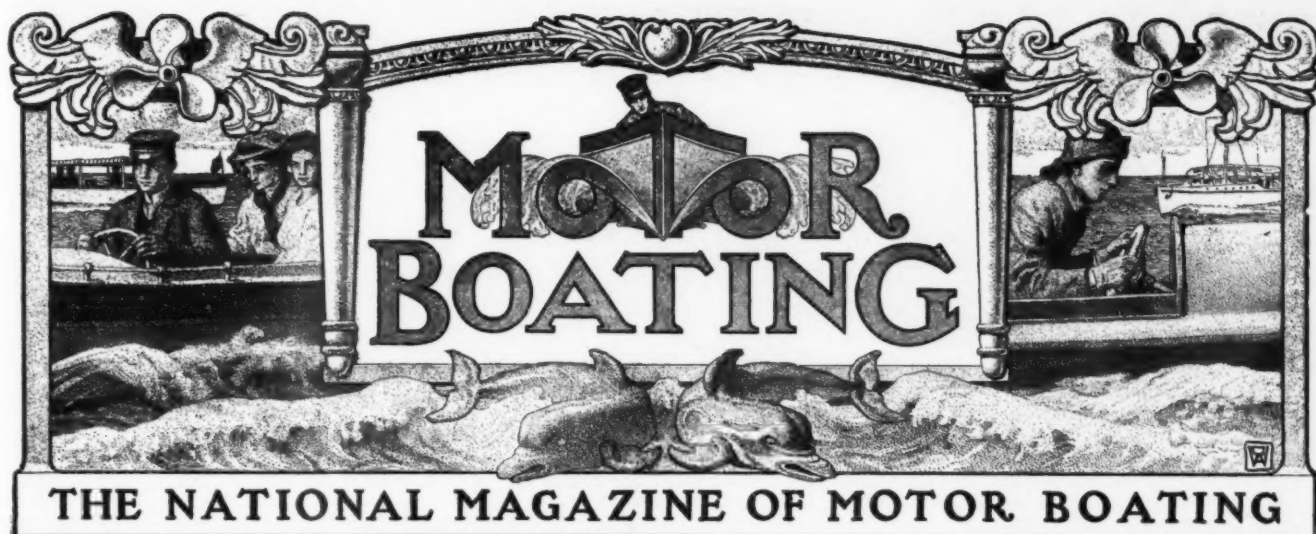
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Photograph by Rosenfeldt
The fastest boat afloat—Dixie IV, the forty-foot hydroplane that defeated the British challengers for the Harmsworth Trophy and is capable of a speed of 45 miles an hour.



The International Races.

How Dixie IV Won the Blue Ribbon of the Sea at Over Forty Miles an Hour.
The Unreliability That Proved the Undoing of the British Team—The Elimination Trials.

By William Washburn Nutting.

Photographs by Levick and by Rosenfeld.



ELL, the big contest is now history, and we have settled down for another year, secure in the knowledge that the Harmsworth Trophy will still rest upon the American mantelpiece. For those of us who were talking in terms of fifty and sixty miles, it was with a dull thud that we got back to the good, old domestic speed of forty miles an hour. But that's about where we stand, and things are

pretty much as they were before.* Dixie IV is a marvel of speed and is without doubt the fastest forty-footer afloat—yes, the fastest boat regardless of size. I wouldn't for the world say anything that might sound to our English friends like "rubbing it in," but I wonder just what kind of knots those forty-nine were that Maple Leaf is credited with having unraveled.

Pioneer, too, is a wonderful boat, and we've never seen a prettier sight than the way she travels. That she is fast—very fast—was amply demonstrated by the way she clung to Dixie's heels, but a beautifully running hull and great power that can't hold the pace for a reasonable length of time will never win races—in America. And where, oh, where, is our own phenomenal fleet of fast ones that the papers assured us would make the Twentieth Century Limited look like a Virginia Creeper?

It seems to me that the great big lesson that this year's races have

*In her subsequent trials Dixie IV made 45.77 miles per hour, but was wrecked at Buffalo on Sept. 16. See pages 50 and 64.

taught us is this: we're vastly farther along in speed boat architecture than we are in engineering. Our slow speed cruising engines have long since reached a point of remarkable reliability, but a few more light, high speed engines of two or three hundred horsepower that will actually run an hour without regrets and explanations is what the international racing game needs right now more than anything else. It is not far wrong to say that one hundred thousand dollars were spent on this side of the water in preparing for these races, over forty thousand dollars of which were put into Dixie alone. But out of the six or eight boats that this expenditure covers we have but one forty-footer of international calibre. To be sure, we didn't actually need *her* as the British boats all eliminated themselves, and the chances are that anything that could chug around the course would have won the trophy. But here I am "knocking" when I ought to be tossing my hat in the air and shouting "Vive la Dixie."

The races this year were held in Huntington Bay. I don't know why, and so I can't give the excuse. Huntington Bay is on or rather a good way off that most inadequate of all public carriers, the Long Island R. R. If you own an automobile or a yacht, it's easy; but if you don't you pay three cents a mile for the privilege of learning the possibilities of mediaeval transportation. Next you take a trolley car which lands you within a mile and a half of the Chateau, and then you either walk or bribe a native to take you over in a "conveyance." You catch yourself doubting the wisdom of a committee that



Dixie IV and the British challengers hobnobbing before the start.



Disturber II, Pioneer and Dixie IV. Considering the fact that Pioneer is a bigger boat than Dixie with 100 horsepower less, her speed is remarkable.

would choose such an inaccessible place of all our perfectly good waters, and just as you are consigning everything to Hades, you arrive—and you're glad you came, after all.

It's a great place for motor boat racing, and as you look at the scene, you feel a thrill, not only at being a part of it, but of pride—the pride that comes of accomplishment; it was mighty hard to get there, but you won out. Perhaps you feel a little regret, too, that more people, just ordinary people like yourself, are not able to share the wonderful sight with you.

But getting back to the races, Dixie IV outclassed her competitors in the first of the so-called elimination trials (and we might add tribulations), and thereat was chosen one of the team of three to defend the Trophy. We believed that she would be chosen—in fact we have been sort of educated up to expect it. Without the least ostentation, and with a striking absence of hectic press notices, the Dixies have always been "on the job" when it came to a "show down," and we take off our national hat to her designer, Clinton H. Crane, and to his brother H. M. Crane, the builder of her engines.

Dixie IV is a hydroplane of a rather different form. Her hull is very simple in its lines, and unlike the Fauber and Thornycroft types in this respect. The underbody is V-shaped forward with the usual hard bilges, and terminates in what, were it not for the keel, would be practically a flat plane aft. There is no break in the long sweep of the lines and no weak spot in the construction, as her forward plane is made separately and bolted to the outside of the hull. This plane is of bronze, and when in place amidships forms a step about three inches high. This construction strengthens the hull considerably at the point where strength is most needed to resist the smashing action of the seas which at forty miles an hour lose much of their limpid meekness. The boat is a trifle under forty feet in length with a beam of practically seven feet. The two motors, one of which drove the former Dixie to many victories, are of the V-type of eight cylinders each, set slightly staggered and driving twin screws.

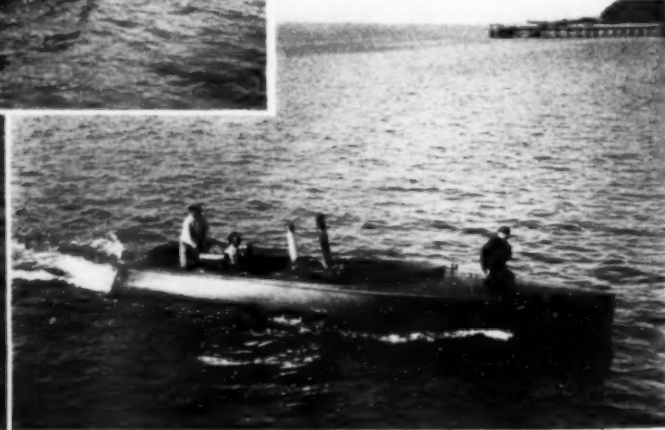


There was an easterly rainstorm in progress with considerable sea on the day of the first trials, and Vita II and Sand Burr, who with Nameless were to have faced Dixie at the start, withdrew, leaving the little 26-footer all alone in rather fast company. Dixie made the several rounds of the course with clock-like regularity at something over forty miles an hour, and demonstrated conclusively her fitness for the team. It will be remembered that Vita II was built by the Electric Launch Co. for Vice Commodore J. Stuart Blackton, and is a 36-footer of the Fauber type with five steps. She is driven by two Pierce-Budd motors aggregating 275 horsepower, but labor troubles delayed her completion so that she was not thoroughly tuned up in time for the trials. Nameless II is an Atkin-Wheeler 26-footer built for Messrs. Heckscher and Melville and is propelled by two 125 horsepower Herreshoff motors, and Sand Burr is the famous little 20-footer that holds the world's record for her length.

There were no trials on Thursday save those of patience, as the weather was stormy and racing was out of the question.

On Friday, the next day, everybody broke down or went to the bad but Sand Burr; Vita II was water-soaked and couldn't be started. Commodore Pugh's "Disturber" from Chicago, the 32-foot Fauber hydro that won the championship at Dubuque, was on hand, but broke a gear in starting and withdrew. Viva, Mr. Blackton's 32-footer, had difficulty in keeping all of her twenty-four cylinders exploding. She started with Nameless and Sand Burr, but couldn't hold the pace with only two of her four motors working. After the first round Nameless had trouble and gave the lead to Sand Burr, and the latter won easily. The 20-footer averaged over 31 miles an hour for the course, and it looked as though she had a chance for a place on the team.

There was much breaking down on Saturday and Sunday with Vita letting a little sunshine in by catching fire on all possible occasions. When she ran she showed considerable speed and Viva, Sand Burr and Nameless were in their usual



Viva, Dixie IV and Disturber II. The picture of Dixie is an exceptional one, as it shows the disturbance caused by a hydroplane before starting to plane.



Dixie IV winning the first race at forty miles an hour.

form. But Sunday night brought nothing definite, and the final decision was left until Monday morning.

The first of the big races was scheduled to start at two o'clock on Labor Day, and it was a gallant assemblage of yachts and motor boats that lined the course to witness the biggest event in the history of motor boating. The weather had turned over a new leaf and was on its good behavior. The sky was cloudless and the brisk wind from the northeast raised quite a lumpy little sea. In fact, it was a little too boisterous for the best performance of the hydroplanes, and it was decided to postpone the race for an hour, as the wind was shifting.

The British trio had reported to the Committee and made fast to the tug. It was a powerful and speedy team—like the Southern darkey's team of a horse hitched up with a pair of oxen—the horse for speed and the oxen for power. There was old Pioneer that we learned to respect last year. She was unchanged in both power plant and hull, and we knew about what she could do. Tyreless, with her raised deck, was a seaworthy looking craft as speed boats go, and although fast for a displacement boat, was hardly to be feared. It was Maple Leaf that we dreaded, as with her came rumors of enormous speeds made during her trials. She is the product of the skill and experience of probably the most prominent naval architect in the world, Sir John Thornycroft. And besides this, and even more to the point, she is powered with a pair of motors aggregating in the neighborhood of seven hundred horsepower. Yes, they were a capable looking team as they swung out idly behind the Committee tug Dalzeline.

There was naturally a lot of speculation among the spectators as to the personnel of the defending team, but this was soon dispelled by the appearance of Dixie IV, and little Viva, and later of Disturber II.

The preparatory signal was given at two forty-five, and instantly all was bustle and animation aboard the racers. It's no mean job to start a motor of three or four hundred horsepower. Maple Leaf's

engineers depend upon "Little Willie" to do the trick. "Little Willie" is a five horse motor geared to the port engine; over here we'd probably call him George. The starboard engine is started by the drag of its propeller through the water.

The roar and smoke of machine guns marked the defenders going into action, but nothing but the blue haze from the exhausts and the hollow rumble of their machinery indicated the starting of the engines of the British boats as they run muffled, unlike our American custom.

With the warning gun the hush of expectancy settled on the fleet as the six boats ploughed up the stretch for the flying start.

Far up the course they turn and you hold your breath as they come thundering down on the line, fearing lest they cross too soon. There is a puff of white smoke from the tug and before the report reaches you, Dixie and Pioneer have passed the line followed by Disturber, with Maple Leaf, Tyreless and Viva several seconds late.

As they shot away with their pulsating wings of spray extended like six huge gulls, it was hard to tell for a few seconds just how they stood. But soon it was seen that Dixie was pulling away from Pioneer, and a cheer went up from the fleet. Around the first stake boat the glasses told that Dixie had drawn away considerably from Pioneer and that Maple Leaf—the fifty-seven-miler—the boat we had feared for months—was actually losing a little, although perhaps gaining something on Pioneer. Disturber was not a bad fourth, but Tyreless and Viva were far to the rear.

These relative positions were retained throughout the remainder of the first lap—and the second, but just as Maple Leaf was approaching the line at the completion of her second round, she drew in her spray wings and soon after went dead. Drifting helplessly off the course she accepted a tow to the Committee tug and thereby disqualified herself for further racing.

Some of us are unable to see the advisability of the clause in the rules



Vita II, Mr. Blackton's Fauber hydroplane, an intimate view of Dixie's interior arrangement, and Maple Leaf III, the Thornycroft hydro with engines of 700 horsepower.



Tyreless III has much the appearance of a fast raised-deck cruiser.



Nameless II and Sand Burr were prominent in the elimination trials.

which makes it imperative to repair a disabled boat while it is floating helplessly about the course. To be sure, the clause that forbids outside help places a premium on reliability and there should of course be some such clause, but would it not be sufficient to disqualify the boat for but the one race, in the event that she is able to complete it? After the race last year the rules were revised so that instead of hanging everything on the outcome of a single race the trophy now goes to the country first winning two races—a much fairer arrangement, were it not for the clause in question which leaves the situation but little better than it was before. Why not another revision?

Tyreless III also withdrew before the finish of the third round and likewise disqualified herself by not finishing. The



The crew of the unfortunate Maple Leaf gamely cheering the victorious Dixie.

Summary of the Races for the British International Trophy.

Course—Four times around a triangle of 7.5 nautical miles.

First Race.

Boat.	1st Round.	2nd Round.	3rd Round.	4th Round.	Total Time.
Dixie IV	12:46	12:44	12:53	12:52	0:51:15
Pioneer	13:10	13:03	13:01	13:00	0:52:14
Disturber II	14:11	14:26	13:38	13:27	0:55:42
Viva	15:35	14:59	17:01	16:47	1:04:22
Maple Leaf III	13:34	13:23	Withdrew		
Tyreless III	17:53	16:36	Withdrew		

Second Race.

Boat.	1st Round.	2nd Round.	3rd Round.	4th Round.	Total Time.
Dixie IV	13:08	13:15	13:57	13:27	0:53:47
Viva	17:57	15:45	22:09	22:22	1:18:04
Pioneer	13:12	20:51*	13:27	Withdrew	
Disturber		Struck floating box and sank.			

*Pioneer was delayed during the second round due to the overheating of her engine.

relative positions of the four remaining boats were unchanged throughout the fourth round, Dixie finishing nearly a minute ahead of Pioneer, amid the din of bells and whistles and ten thousand cheering throats.

The harbor on the second day was not as crowded as it had been the day before, nor was the race as interesting, with two of the challengers out of the running. Pioneer clung to Dixie's heels and seemed to gain on her although we felt that Dixie was not being pushed to her utmost speed. Disturber, the unfortunate, was out of it very early in the race. We saw her slow down when on the second leg of her first round and for some unaccountable reason head for Lloyd's Neck, which she seemed to be attempting to round. It developed later

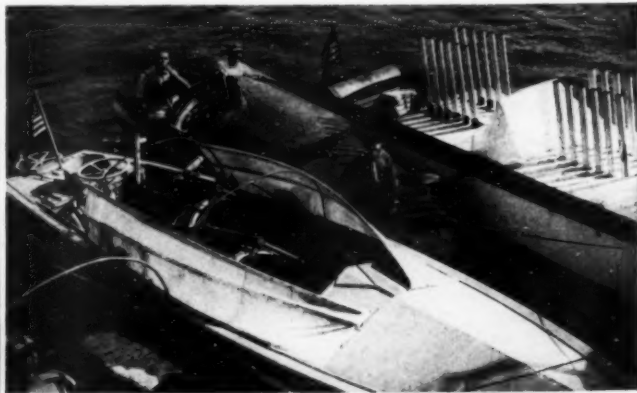
(Continued on page 61)

Descriptive Details of the Six Contestants.

BOAT.	LENGTH.	BEAM.	MOTORS.	TOTAL H. P.	DESIGNER.	BUILDER.	OWNER.	HELMSMAN.
Dixie IV	39 ft. 6 in.	6 ft. 11 1/2 in.	Two 8-cyl. Crane	500	Clinton H. Crane	Staten Is. Ship Bldg. Co.	Burnham, Melville & Heckscher	F. K. Burnham
Disturber II	31 ft. 10 in.	5 ft. 6 in.	Two 6-cyl. Sterling	260	Fauber	Inland Lakes Boat Co.	James H. Fugh	J. H. Fugh
Viva	32 ft.	4 ft. 8 in.	Four 8-cyl. Emerson	400	Emerson	Emerson Engine Co.	J. S. Blackton	Capt. S. B. Pearce
Pioneer	39 ft. 11 in.	7 ft. 6 in.	One 12-cyl. Wolseley	400	Fauber	Saunders	Duke of Westminster	Noel Robbins
Maple Leaf III	39 ft. 11 in.	9 ft.	Two 12-cyl. Astell	700	Thornycroft	Thornycroft	Mackay Edgar	W. H. Astell
Tyreless III	40 ft.		Two 6-cyl. Brooke	360	Cox & King	J. W. Brooke	F. Gordon Pratt	F. G. Pratt



Disturber sank again—why not measure her speed in fathoms?



An interesting view of Nameless II, Sand Burr and Viva.

To Montreal and Back Again.

The Story of a Cruise Through the Erie Canal and Lake Ontario and Back Through Lake Champlain. With Practical Suggestions for Making the Trip by Motor Boat in Fifteen Days.

By Athos D. Leveridge.

WE'VE done the stunt and we're back again in record time, but let us start all over again on paper. To begin with, the boat, Anna III, is a raised deck cruiser, 38½ ft. over all by 9 ft. beam and 3½ ft. draft, with a large forward stateroom containing two berths; aft of that the engine room, which also contains the galley (an arrangement not appreciated in the least by the cook in hot weather); and next aft a large comfortable saloon with extension berths, the backs of which swing up to form two or more upper berths. Four steps take you up the small cosy cockpit, which has a lazyback seat across its after end. One wheel is mounted on the bulkhead, and there is another with independent tiller lines together with the engine controls, on the raised deck above the engine room. The "mill" is a four-cylinder 25-horse Craig, supplied by a 150-gallon tank in the bow and a reserve tank of 40 gallons. We were always dead sure of our motive power.

We started out with a paid crew of captain, engineer, cook and deck hand. By we, I mean David and I—David's the commander-in-chief. And we had guests, too; yes, decidedly we had guests, and they were David's young aunt and my cousin Alice. I might say that the above enumerated crew were incorporated under the one hat or rather name of Albert Dailey, much to be respected and not bothered.

After a preliminary run from Jamaica Bay we left the Columbia Yacht Club, New York, on Sunday afternoon, July 16, at 4:30 p. m. Bade our beloved palisades adieu and anchored at Peekskill at about 9 o'clock. After breakfast the next morning we up-anchored at 6:30 and ran through the gorgeous scenery, that from Peekskill to Newburg, bids defiance to that of any river in the world. (Our German friends please take note).

After taking on lots of supplies we left Poughkeepsie Yacht Club at about 11:15 and soon the weather which had been fair turned showery. We had several thunder squalls, but none serious enough to hide the buoys marking the channel. After reaching Hudson it was necessary, however, to keep a sharp lookout for these buoys and beacons as there is more grassy middleground slightly submerged than visible. Especially at Coxsackie is this the case, and we were compelled to do quite a little weed plucking. Passing under the first drawbridge at Albany, we followed the steamboat docks on our port, squeezing by one of the big white hulls into a little basin and tying up at 7:45 at the Albany Yacht Club. The guests were seasick, David and I were tired and hungry, and Mr. Crew was starving for the sixth time that day. The club is right in town, and the cruisers all tied up side by side next to the floats. Gasoline at fifteen cents and all kinds of supplies are courteously sold

here, and the Texas Oil Company has a branch below first bridge.

Next morning preparations were begun at once for canal traveling, by purchasing at the ship chandler's facing the club house six excelsior-filled burlap coffee bags, securely bound with rope for use as fenders, at a cost of 65 cents apiece. At 10 a. m., Tuesday, the 18th, Anna III went to Troy, ultimate destination Montreal, leaving behind at the club, tied up in rows, about forty cruisers, some of which were also going to Montreal but by the route planned for our return.



The new pilot prepares for the canals.

After passing the first bridge at Troy we made out the entrance of the Erie Canal to port, and blissfully ignorant of the shoal water that lies above the entrance lock on that side of the river we ran past a diminutive iron stake and aground. In reversing herself out of the mud Anna III promptly knocked the stake down for not being bigger, and proceeded to the canal. Several barges were waiting, for horses so they said. On one of them a husky six-footer offered his services as canal pilot through the eighteen locks to Cohoes, the union fee for which is \$5.

He came aboard and quickly unstepped the

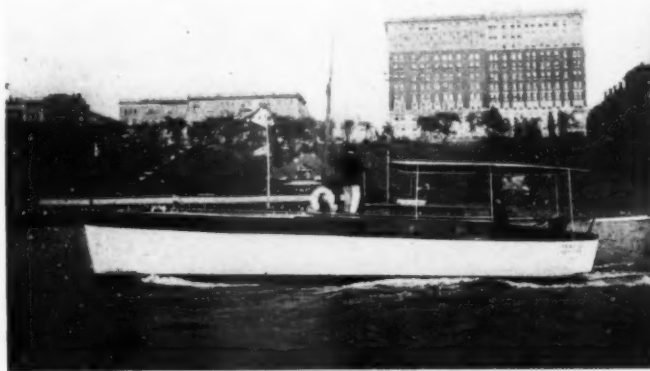
mast, helped put over the bags and prepared to enter the lock as soon as the barge in it could come out. When that time came, however, we found our way barred by another one whose owner had said he was waiting, but the pilot gave the word to go ahead. The barge also went forward, the space between the stone wall on our starboard and the barge on our port diminished, and there came a crash, and a crackling. We thought Anna III was doomed. I ran forward to where the low rail had been torn off by the fender suspended therefrom and David tackled the heavy towline of the barge.

David let their line from their cleat, the bargeman dashed forward to strike David, the pilot ran to kill the bargeman, the tide carried the barge back, the captain threw the clutch in, and to the tune of a thousand oaths and the girls' accompaniment of "The horrid thing," etc., Anna III glided between the tomblike slimy walls of Lock No. 1 at 12 o'clock noon. This experience was very discouraging with 128 more such locks ahead of us.

Imagine rising a few hundred feet inside of two miles and in eighteen locks. We did this in less than three hours. The sight is really to be remembered. One gazes down the hill-sides from one's boat and over the vast reaches beneath. At Lock No. 10 some ragged, tiny little urchins begged so hard to be taken to the next lock that the girls made us lift them aboard. We were besieged for an hour after that by crowds of these kids.

There is good well and spring water to be had near several of the locks—ask the man—also beer, milk, etc. Oh, I can give you some pointers on locks now all right but, leave that awhile, I want to get to Schenectady. The scenery is splendid and has no railroad beds and telegraph wires to mar its beauty. Here's a piece of luck: About ten miles from Cohoes in the construction work for the Barge Canal it was necessary to put a concrete wall across the Erie Canal, leaving a space just wide enough for a barge to pass through. It's called the "Hole in the Wall." When we arrived we found a barge in this aperture, and the wife of the bargeman bewailing the loss of the day as they had been stuck there since 4 a. m. I suggested camping in anticipation of a long stay when, zippo! the thing was freed, pulled out and we went on our way with a cheer to the barge lady. At 7:30 p. m. we tied up by the main street of Schenectady, a great little city thirty miles from Troy.

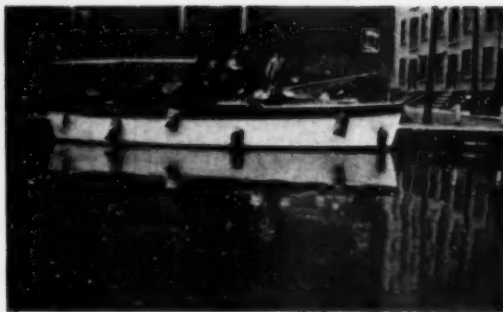
It was 4:30 a. m. on the morning of July 19 that Jimmy Craig's beastie began to purr, with nearly all asleep. Pilot Facto had been engaged through to Oswego for the mere pittance, ahem! of twenty-five caise-bucks. He graciously tackled the neglected deckhand work, and the girls and commander-in-chief



The cruise was made in Anna III, a 38-footer.



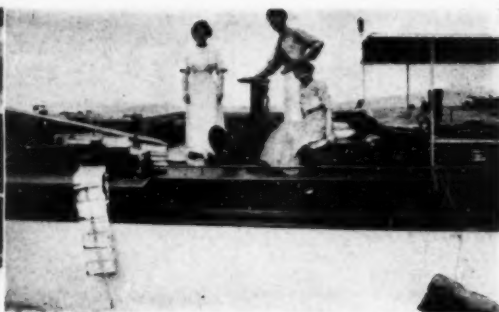
The fleet tied up at the Albany Yacht Club.



We tied up for the night in the heart of Utica.



Our megaphone served as a horn for the Victor.



Anna III is steered and controlled from the deck.

all worked in the culinary department to keep the work going.

After passing Lock No. 24 at New Rotterdam Junction, an Italian colony, the commutator broke off, and for a few hours we passed the time tumbling in hay lofts and riding plowhorses in this fine, rolling country. As in old Rotterdam the women here do their washing on smooth stones on the canal banks. While the captain was fitting a threaded bolt to the timer, the pilot filled several burlap bags with straw from a nearby field for additional fenders. We finally resumed our voyage through the beautiful Mohawk Valley and scenes unrolled themselves to us as gorgeous as they were unexpected. The canal seemed to have been built for the purpose of showing nature's unalloyed loveliness. In one place where the hand of man had aided, we passed over a long concrete viaduct beneath which the Mohawk River flowed; but the memory of the entrancing beauty that greeted us at dusk when, after leaving our thirty-fifth lock behind we glided on towards Little Falls, will never be effaced from our minds. We passed along the mountain sides, and, as we gazed from our elevation into the river flowing peacefully near our canal, we beheld all the lovely color and outline of the sunset and wonderful landscape reflected perfectly therein. Bewitching it was; awe-inspiring.

We tied up to the bank at Little Falls, 93 miles from Albany, at 8 p. m., and proceeded to the hotel for a good supper. The pilot, as usual, stood guard. At 6:30 on the morning of the 20th we passed the long rows of motorboat sheds which are to be found near every canal town, and the few cruisers, and swished on. We tied up by the main street of Utica, 110 miles from Albany, for ice, etc., while Lord Crew, now mostly engineer, went for a meal, and after getting away we soon passed Rome where gas was to be had for 17 cents.



Our six-foot pilot minds the bow line.

With the mast unstepped we only required nine feet of clearance beneath bridges, but passing through towns most bridges had to move to let us through. And it was really funny to see how they *did* move on the blast of a horn. Some would rise perpendicularly, some would rise at an angle in one piece, others would part in the center when rising and still others would roll sideways onto the shore. The latter were called jack-knife bridges, and there was also the ordinary kind of draw. At 9:30 p. m., after a level stretch of 46 miles without a lock, which enabled us to play the Victor, checkers, dominoes, besides washing and cooking, without the excitement incident to locking through, we did three locks and reached Syracuse, 165 miles from Albany. Tying up to the street in the public place opposite to the Wieting Opera House, we attracted considerable attention and were at once boarded by reporters for details of the trip. One of them eyed my pretty cousin and wanted to make me admit it was an elopement. I would tell him nothing. He said it was a mystery to him. I agreed with him. We all had dinner at the Onondaga, got some liniment for "Chappie's" foot—we called her that because it sounded like chaperon—and went back aboard.

Next morning we were awakened by a hubbub of voices. Crowds were around us, and newsies doing a rushing business. It seemed strange thus to arise. Securing copies of the papers we learned among other things that there was a "Mysterious elopement aboard natty yacht tied up at Packet Dock," meaning us, and that we were palatial and luxurious, and some details of the trip. The interested crowds hushed to hear our laughter and only made way for a newspaper photographer and the Standard Oil Company's gasoline tank-wagon, which latter had come in answer to our 'phone call, and it filled our depleted 150-gallon tank at 11 cents a gallon. That convenience felt good.

At 9:30 a. m., July 21, leaving our new friends and a boat-load of long-haired and bearded Christian Israelite missionaries (see page 38), whose blessing we carried with us, we retraced our course past one bridge and entered the Oswego Canal on our port. We made our way to the outskirts of the city through lanes of admiring well-wishers who shouted congratulations and "look out for papa" from windows, bridges and boats, only to find our way barred at the first lock. For nearly two days the waters on the next level below had been drawn off to patch up a sunken barge, so advantage was taken of this to remove a lock gate for repairs. Another bit of luck: in less than two hours they finished up and put us through.

The Oswego Canal, though only 38 miles in length, is noted for the trials and delays it entails. It is old, its locks are dilapidated and instead of double as in the Erie Canal, they are only single. It has frequent washouts. The canal had been closed for two years previous, to permit of barge canal construction, and again closed this spring, only opening two weeks before our advent. In places it uses the Oswego River by following the dredged eastern shore. Furthermore, it is renowned for treacherous spots and weed-choked stretches. The country round is picturesque, and it will

be fine running some day when the Barge Canal is completed.

We had to go and wake many of the lock tenders who are as old and decrepit as their locks. In fact some of the locks seemed to be untended and intended for us to work, and this we proceeded to do under Pilot Facto's direction. It is better to lie near the outflowing end of the lock keeping your line on the cleat nearest to inflowing end. If you don't make fast you are going to smash against the gates as the rush of water is terrific, but if you don't mind your line, taking in or paying out slack as required, you will either pull your deck off, or if the latter be strong enough to hold you it will give you a chance to caulk your boat and put on a new wheel. Always keep your straw bags out and for Heaven's sake don't tow a tender; it takes a man, in our case a girl, to look after the tender alone, as it insists upon being crushed between the boat and the slimy stone lock-walls. Of course, if able to mind a bow and stern line, so much the better. Most lock tenders will throw your turns off the posts. In approaching a lock that's filling or emptying keep a good distance off till they put their backs to the gates to open them as there is some current.

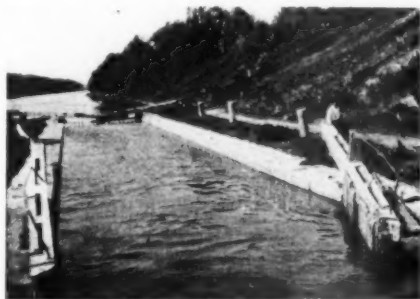


What you must expect in the locks.

Look out for a lock that seems to have no gates for it has a newer style gate that rises from the canal bed to the water's edge and no further. Be sure it is down before crossing. The Barge Canal Locks, the first we reached at Phoenix, are different. When finished they will be wonderful, but now it takes an hour's precious time to be locked through some of them. These barge locks are of concrete throughout, contain niches for making fast, and are large and wide enough to put through at one filling six or eight one hundred-foot barges in two rows with their tug. They have steel gates which *will* be operated by a force of men and machinery, but are now moved as Pilot Facto called it, by the "main strength and ignorance" of some tottering Methuselah. The center of these locks is the best place to make fast, and there is very little motion to the water. One more admonition. Slow down when approaching and keep clear of a string of barges because they swing around at times and you may be crowded to the bank. The pilot was used to the opposite sort of helm and in suddenly attempting to avoid such a swing he turned the wheel the wrong way and ran at full speed side on to a barge. Our bags saved our sides, but we swung around and into the soft bank. He was watched after that.

At Phoenix we were again greeted by an

expectant throng who had been awaiting our coming. Before getting to this town, which is 20 miles from Oswego, we went through a few miles of eel-grass, so thick that we had to reverse every half minute to clear the propeller of it. After clearing the Barge Canal Lock at Fulton we found ourselves at the place we had been warned against by some poor chaps who had to trudge the tow-path, their boats behind, with broken shafts and minus wheels. We passed out into the Oswego River for a short stretch again and were about to continue into the Canal opening when we were waved back by a man on shore. We then saw that a mill race was running through this 19 foot opening. Our savior told us that he had nearly run through with his boat and that there were but a few inches of water beyond the entrance. This was caused by much of the water being drawn off to permit of Barge Canal construction. What was left was during certain hours of the day diverted for power use by the big paper mills of Fulton. We tied up at 7:30 p. m. near the lock we had left. We communicated with the mill superintendent, who said we could go through early the next day.



A typical lock in the Erie Canal.

Early next day became afternoon, and then we had to be locked down with several others in a jiffy, as they had to shut the water off again. The lock was damaged. We provisioned ourselves and filled the water-tanks with free city water from the Great Bear Spring. A grunt of disgust at the delay.

Thus we arrived one day behind schedule at 5 p. m., Saturday, July 22d, at Oswego, after passing the Barge Canal Lock at that town. We were 363 miles from Albany and had left 68 locks behind. The only advantage we had had from the colossal barge locks was that they replaced two or three of the smaller ones in some places. We were boarded by a man who said he would be glad to pilot us to the basin. Wonderfully kind! On leaving the canal we steered over to port and found ourselves in the mouth of the Oswego River. To the western bank were tied some other yachts. Our Pilot No. 2 parted the bronze tiller line of the deckwheel in piloting us.

We secured copies of the Oswego paper with fairly good headliner accounts of the cruise that "was attracting so much attention throughout the state." Pilot No. 2 took us at once to the ship-chandlers to get some charts of the Thousand Islands and some warnings, absolutely disinterested of course, of the perils of the St. Lawrence.

They merely recommended pilots and there was nothing in it for them you see, but the man who had brought us to them was an ex-

perienced man in those waters and oh! the entrances to the Canadian locks. If we should ever be swept past those entrances as often occurs when new to them, what a fate in the rapids below; whereas we could shoot them with impunity and with care-free smiles of confidence on our faces under this pilot.

I was a little uneasy but hurried off as "Chappie's" acute rheumatism yearned for a doctor. The main street was but a block away from our landing and as Alice and I returned to David and "Chappie" with the *medico* there was a case of when Latin meets Latin, for on board the yacht "Helys" of New York, out for a fishing cruise on the lake with about thirty sportsmen was Young Doctor Bier. He had kindly volunteered his aid when informed of the untold agony aboard ship after a comrade's visit to us. We caught him in the act, and apologies were in order on all sides. He proved himself a gentleman and a diplomat by gracefully retiring in favor of Doctor O'Brien. Later Pilot No. 2, who had been busy with a "professional splicer" on the single break in the tiller rope for four hours, presented a bill for \$4. He didn't get it all.

Again someone volunteered to pilot us, but I had by this time looked up the main Thousand Island channel and it seemed O. K., therefore I refused. A short time later a natty young fellow who said he owned a 60 foot cruiser at the club, opened conversation with me and was much interested in our undertaking. He asked who our pilot was. When informed no one, he started to walk off with a long, low whistle. I called him back and asked him what was up. "You certainly have got your nerve with you," he said. "We've got charts," I replied. A long, low laugh such as in a novel came back to me and he forebodingly said: "They can't chart the St. Lawrence in the islands. Folks around here say there are a thousand islands above water and ten thousand beneath." He moved slowly off and a chill crept down my back. I went off to consult David about it, but turned just in time to see my ill-boding friend meet my latest piloting applicant at the main street as though by pre-arrangement. *We took no pilot.*

Next morning we stepped the mast, hauled in the bags and made them fast on deck with canvas. We tendered an invitation to Facto to continue with us as guest until we should reach the Champlain Canal, when we should again require his services. He liked our company, and having never seen the islands, he accepted. A pleasanter and more useful guest you never saw.

At 5:45 p. m., Sunday, July 23d, with a brisk southwest wind blowing we skipped out of Oswego harbor and onto the broad expanses of Lake Ontario. What a change from the placid, landscape-framed canals of the state.

By the way—did you have your compass corrected when you made the last repairs or



Through a lock in the Oswego Canal.

changes aboard? We didn't, and our compass was absolutely useless. Our course lay about N. N. E. from Oswego. Fortune again intervened in the shape of a large sailing vessel and tug ahead of us. They were making N. x E. course to Kingston, Ont. And by getting their masts in a line and sailing thus ahead after passing them, we were able in about two hours to sight Galoo Island several points to starboard, and Main Duck Island, more distant, dead ahead. At that time the shore we had left was lost to view, but the bluffs of the eastern coast were just faintly discernible. Thanks to a clear day therefore, we were at all times in faint view of some land. The sea then running did not bother us in the least, although we did considerable pitching and rolling.

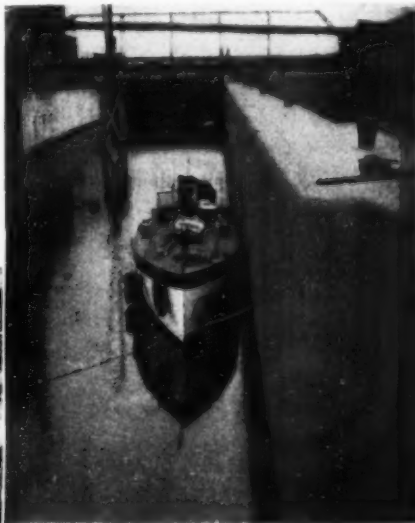
We directed our course to starboard and made the buoys marking the Galoo Shoal in about an hour. We then sailed as closely as we could figure to a N. x E. course towards the tree-tops just showing above the horizon. We figured that these ought to be atop of hills on Grenadier Island, and trusted to our imagination to make the slowly appearing land ahead conform to the chart. We went off our course to port only to pick out the buoys marking the Charity Shoals. These set us straight, for we then could easily see the long peninsulas and bays of Wolf Island to port, and the white Tibbetts Point Lighthouse to starboard. We passed the latter and entered the St. Lawrence River at 12 noon.

Leaving the two red lighthouses of the St. Vincent breakwater, we watched our buoys, and taking the safer course around the north shore of Carleton Island, arrived at Clayton among the Thousand Islands at 1:45 p. m. We tied up at the gasoline dock which is plainly to be seen on approaching the town, and put in sixty gallons at 15 cents, our third purchase.

(To be continued.)



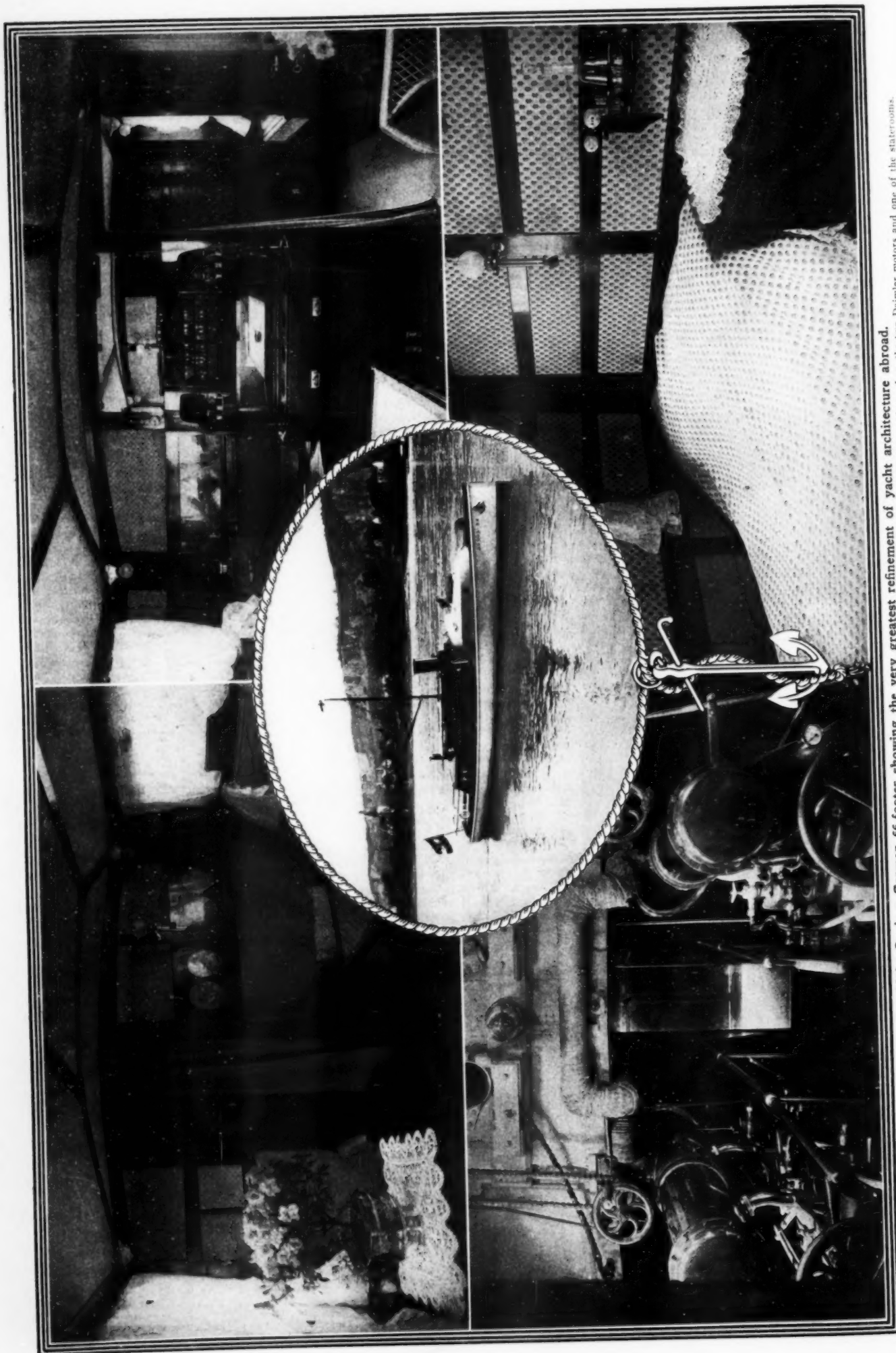
The story of the "mysterious elopement" had gone before us.



A barge canal lock in the Oswego.



Often it was necessary to work the locks ourselves.



Aloha-Oe is a German 66-footer showing the very greatest refinement of yacht architecture abroad.

The two upper views are of the main saloon, the fittings for which show a harmony and individuality sometimes lacking in American yachts. The lower views show the two Daimler motors and one of the staterooms.

A Cruiser With Individuality.

ALOHA-OE, owned by R. von Carstensen, one of the four vice-presidents of the Motor Yacht Club of Germany, is one of the speediest cruisers of her class on the club register. She is a little over 62 feet in length by 11 feet beam and 4 feet draft, and it would be difficult to find a more finely appointed 62-footer on either side of the Atlantic.

She was designed and built at the Lürssen yards, primarily for coasting in the North Sea and the Baltic, and is an exceptional sea boat; in fact, she has already won several prizes in this capacity. The stem and transom are plumb, the latter being curved, with the rudder hung outboard. The keel line runs in a very gentle sweep from the stem to a point beneath the after bulkhead, from which point it rises in a reverse curve to the transom. In the event of grounding, therefore, the weight of the boat is taken on a considerable length of her keel, and as the latter extends somewhat below the line of the propeller and rudder, these are thoroughly protected.

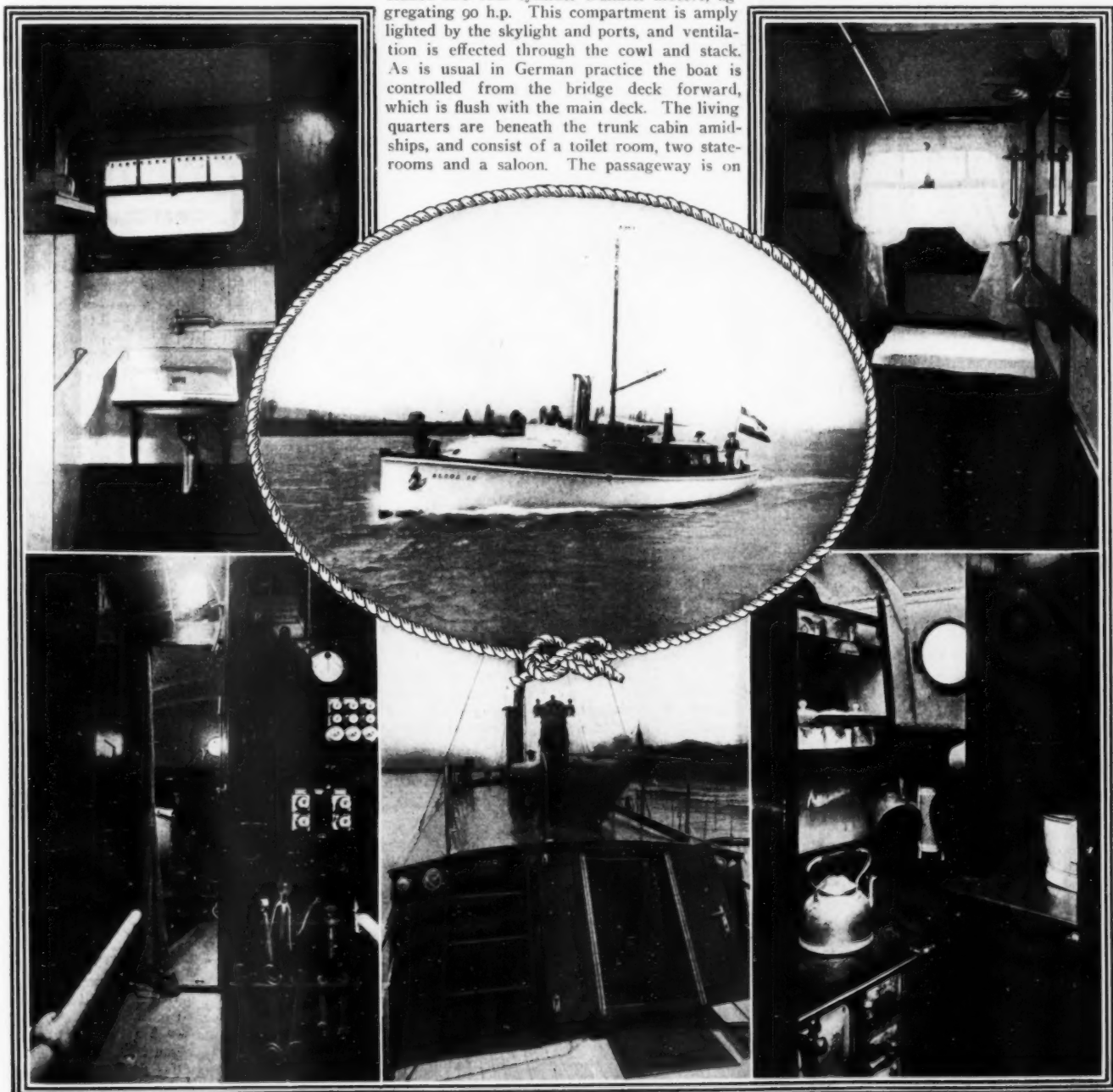
The construction of the hull is consistent

with the Lürssen practice, being of the double diagonal carvel system with an outer skin of mahogany, an inner one of oak, and an intermediate layer of specially prepared sail cloth, the whole being copper riveted together into an exceedingly tough skin. The fore and aft members are of pitch pine stiffened with ribs of galvanized angle steel arranged at intervals beneath the outer skin. The cabin sides are of mahogany, lined with linoleum, and the roof is of galvanized steel, which has also been used for the trunk over the engine compartment forward. The funnel and ventilators are also of galvanized steel in brass frames, and all the metallic deck fittings are of bronze with the exception of the cabin rails and the railing around the after deck, which is of galvanized iron tubing, that around the after deck being capped with a mahogany rail.

The forecabin has accommodation for four men on folding pipe berths, and just aft of it is the galley on one side and lockers on the other. Next aft and occupying half the space beneath the trunk as well as that below the bridge deck is the engine room in which are installed two four-cylinder Daimler motors, aggregating 90 h.p. This compartment is amply lighted by the skylight and ports, and ventilation is effected through the cowl and stack. As is usual in German practice the boat is controlled from the bridge deck forward, which is flush with the main deck. The living quarters are beneath the trunk cabin amidships, and consist of a toilet room, two state-rooms and a saloon. The passageway is on

the starboard side and is lined with lockers for linen, books, etc. Much might be written of the finish and appointments of the boat throughout and especially of the saloon, the fittings for which were designed especially for it and have an individuality so often lacking in our American yachts. A glance at the photographs will show this better than any amount of description.

A companionway leads to the after flush deck which is considerably larger on this boat than in many of the other German craft, and there is still more deck space, for the top of the cabin house which extends the full width of the boat, is also available. The boat carries a mast amidships and in cruising usually carries a staysail and loose footed mainsail which not only steady the boat considerably, but frequently add to her speed. An interesting feature of the deck equipment is the binnacle mounted on the cabin roof. This is merely for convenient reference as there is no steering equipment at this place. And there are many other features about Aloha-Oe, as interesting as they are unique.



The design of Aloha-Oe is worked out with a thoroughness that extends to the smallest detail.

Hydroplanes vs. Displacement Boats

A Timely Discussion of the Hydroplane Principle and Its Present and Future Applications.
Multi-Step Versus Monoplane Construction, Extent of Practicability, Et Cetera.

By Henry J. Gielow.

THE present popularity of the hydroplane type of power boat, as illustrated, for instance, in the contest this year for the International Cup, raises more than one question of interest, not merely to the builders and owners of racing craft, but to all who wish to see this new departure bear good fruit in the wider field of general design. Admitting all that is claimed for the hydroplane principle, when applied to boats built exclusively for speed, it is still legitimate to inquire (1) whether with an equal increase in the weight efficiency of the prime mover equally good results would not have been attainable with considerably less modification of the usual model; (2) whether the *causa causans* of the diminished resistance to the motion of a hydroplane resides to the extent generally believed in the subdivision of the supporting surface; (3) whether the hydroplane principle is not necessarily self-limiting, involving drawbacks and demanding conditions which in practice restrict its application to speed boats of moderate dimensions. The first two of these inquiries are evidently concerned with the hydroplane as a speed proposition pure and simple, the last with its general significance as an innovation in naval architecture.

When a stone is projected along the surface of a pond, when an aeroplane is propelled through the air, when a flat-bottomed boat is planing, progress in each case is rendered possible only by the inertia of the successive portions of the supporting fluid exerted at the moment of contact with the sustaining surfaces. A stone at rest in water will sink, an aeroplane when its motion is checked will descend to the ground, because the inertia reaction in either case is merely momentary, and a hydroplane, when its velocity falls below a certain critical minimum, virtually ceases to be a hydroplane at all, its support then involving three dimensions (displacement) and not merely two (the area of the planes).

Now starting with the obvious proposition that every hydroplane is a boat first, i. e., must float at rest, the fact that in order to function as a hydroplane it must rise to the surface of the water introduces a limiting condition, for given two hydroplanes of similar design, but different dimensions, their weights will be as the cubes and the areas available to plane on as the squares of their respective lengths. Nor, other things equal, is it reasonable to suppose that this defect of the supporting surface, as the dimensions are increased, can be made up for in increased speed, for the velocity of a boat tends to vary not as the length simply, but as its square root. Therefore, just as in the case of the aeroplane there must be some size for which the weight, increasing as the cube of the linear dimensions, is no longer capable of being supported by a surface which only increases as the square of the linear dimensions, so for the hydroplane there must be a limit beyond which it will prove impossible to eliminate the displacement as a support factor. In such a circumstance it would be correct to say either that the force (the weight of the boat) opposed to the inertia of the water was too great or that the interval of time during which it acted on a given layer of water was too long.

Precisely what will constitute this limit it is impossible to say. Any calculation attempting to fix it, as the late Professor Newcomb endeavored to forecast the limiting size of the aeroplane, must necessarily fail to take into account inevitable improvements both in the power plant and in the model of the boat itself. For example, the former rule that the weight of a hydroplane must not exceed 20 lbs. to the horsepower no longer holds good, double that weight being at present accepted

as sound practice. A limit, however, exists, and the view which I have seen more than once in print that a large ship would plane the best, owing to the advantage of larger planing surfaces, seems to entirely ignore the ever increasing tax thrown on the prime mover by the greater weight per unit of supporting surface. It is also worth noting that whereas with the aeroplane the operation of the square-cube law can, at any rate, theoretically, be evaded by the multiplication of superimposed supporting surfaces (as in the Bell tetrahedral construction), no such expedient is open to the boat designer. Unless a hydroplane is supported practically at the surface of the water, it ceases to offer any advantage over the usual conventional model.

Apart from the question of the physical possibility of operating large hydroplanes, it is doubtful even if such boats were feasible whether they would be worth constructing except for racing purposes. In the first place the hydroplane, being designed to run at maximum velocity, is, owing to its peculiar model, a very inefficient boat at moderate speeds. It is true that in such types as Miranda IV (Thornycroft) this objection has been partially overcome by confining the hydroplane principle of construction to the midship and aft sections and maintaining the usual shape forward, but this compromise is evidently, as far as it goes, a reversion to conventional design. Further, the hydroplane is a poor sea boat, especially at high speeds. In addition to its necessary lack of lateral stability, a fault obviously inherent in its characteristic section, its flat bottom renders it peculiarly liable to damage in a heavy sea, both because a flat surface is ill adapted to resist impulsive strains and because the cutting action by which in ordinary boats the full force of the waves is largely evaded is almost entirely absent. Lastly, the steadiness which comes from proper immersion is not only lacking, but even in a moderate sea the pitching and pounding of a hydroplane are a perpetual source of discomfort.

Just as in the modern aeroplane there is practically nothing which was not known to Lilianthall, so the modern hydroplane is in its essential features far from being in any true sense of the word a new discovery. In 1872 the Reverend C. M. Ramus, an English parson, constructed a boat with two wedge-shaped supports fore and aft which number he afterwards increased to three or more. He showed that such a boat remained trimmed at all speeds and by the aid of rockets as a propelling device is said to have attained a speed of 60 statute miles an hour. His invention was investigated by the British admiralty, but nothing equivalent to the modern gasoline motor being at that date available, was eventually shelved. The French government also, about the same time investigated the same principle, and its resuscitation at the present time represents not a revolutionary discovery in design but the utilization in a new field of the high weight efficiency of the modern motor. Whether the hydroplane be regarded as a racing machine pure and simple or as having military and economic possibilities, it is equally important to ascertain to what features in its construction its high speed efficiency is principally due. The current view appears to be that the decreased resistance to its motion is mainly attributable to the practical elimination of all lateral wetted surface and the consequent reduction of skin friction. There also seems to be a general impression that this advantage, together with the diminution of wave and eddy formation with which it is associated, is best realized by the subdivision of the whole planing surface into separate sections. Both of these propositions seem to me to be open

to criticism and that without questioning the speed efficiency of the hydroplane, which, of course, is a demonstrated fact.

At the speeds at which hydroplanes are driven most of the resistance to the motion of a boat of conventional design is due to the formation of waves. The energy left in the water in the form of eddies created by the friction of the wetted surface is less than the energy imparted to the water as wave motion. In the case of the hydroplane both losses are obviously reduced, and seeing that the latter loss is the more important it seems reasonable to conclude that the efficiency of the hydroplane is mainly to be attributed not to the elimination of skin friction but to the diminished wave disturbance of the supporting medium. Even, however, if this were not so, it is still on the greater or less degree of wave formation that the question of the relative advantages of a continuous or a subdivided planing surface ultimately rests, for the reduction of skin friction due to a reduction of wetted surface is evidently, so to speak, an independent quantity, unaffected by the character of the reaction between the planing surface and the water, once the hydroplane has been driven to the surface.

The argument put forward for the multiplane type of supporting surface has been stated as follows: When a boat is planing the impulsive pressure between each supporting plane and the water in contact with it tends to cause the latter to move outward in all directions. That moving aft quickly passes the step, meeting the water flowing forward from the plane immediately behind, and the tendency to cumulative wave creation is thus largely eliminated. To this contention it can be objected that the gain due to this neutralizing action is only apparent, for the energy resident in two oppositely directed streams which meet will survive as eddy motion exactly in proportion as the formation of a free wave is rendered impossible by the character of the constraint. It is also contended that the air supplied to the notches between the supporting planes is drawn under the latter and serves as a lubricant, the fact that when the admission of air is caused to cease the tow rope resistance is augmented some 20 per cent., being cited in corroboration. This access of resistance is, however, easily explainable as simply due to suction.

Other arguments of a theoretical nature for and against the multiplane type of hydroplane will occur to anyone who cares to think the matter out, but, after all, the most significant thing is that in actual racing the multiplane type has on the whole failed to give any convincing demonstration of its superiority. In the late International cup race the winner was provided with only one step and its chief rival with several. A good deal of recent experience with hydroplane types would almost seem to warrant the expectation that most of the advantages of the new construction will be secured and most of the disadvantages eliminated by modifications in the ordinary model falling far short of its entire abandonment.

The nature of the difficulties which must be surmounted before the hydroplane principle can be usefully applied in the only field outside of racing in which great speed is the paramount consideration, is apparent from the relation obtaining between the displacement and horsepower of a standard torpedo boat. One of these craft capable of making 25 knots may be figured, following average modern practice, as displacing 150 pounds to the horsepower. Taking 40 pounds to the horsepower as the hydroplane limit, it is evident that a

(Continued on page 68.)

Carnival Week at Huntington.

The Seventh Annual Event of the Manufacturers' Association Held by the M. B. C. A.
The Excellent Showing of Sand Burr II, Hazel, Avis, and the Ever Reliable Dixie.

By Bradford Burnham.

WHEN Britain's labor disturbances made necessary the postponement of the International Races for the Harmsworth Trophy, a revision of the program of the Carnival of the National Association of Engine and Boat Manufacturers, held under the auspices of the Motor Boat Club of America, had to be made, since the dates finally set for the big races, namely, September 4, 5 and 6, were the same as the first days of Carnival week. The committee skilfully arranged a schedule which permitted the holding of the two big events in conjunction, so that each rather proved an additional drawing card to the other. As two days sufficed to show the superiority of the American boats over the visitors from England, the matter was somewhat simplified and the balance of the week left entirely free for the events arranged by the Carnival committee.

The locale of both the Internationals and the Carnival were identical, too, and Huntington Bay ably demonstrated its fitness as a course for motor boat racing. A heavy northeaster was an unwelcome visitor during the course of the Carnival, and although the water out in the Sound was decidedly heavy as a result, within the lee of Eaton's Neck even the little Sand Burr II could usually negotiate the reduced waves without danger. The large amount of driftwood and other floating menaces to the thin racing hulls, encountered in the Hudson last year led the committee to change from the river to the Huntington course where the danger of such obstructions could be reduced to a minimum.

The program was somewhat elaborate and included races for boats of many types, from the ultra-speed sensations to the large and dignified seventy-foot cruisers. The most interesting events on paper seemed to be those listed for Friday, September 8th, but circumstances, chief of which was the weather, made disappointments the order of that day. The rough water or some other reason led the English captains of Maple Leaf III and Pioneer to refuse to enter the mile time trials over the measured nautical mile course, at the very moment when Dixie IV, like a huge porpoise, was leaping over and through the crests of that selfsame mile at the rate of 39.26 nautical miles, or 45.22 statute miles an hour. This decision was a big disappointment to the enthusiasts on this side of the water. On account of her accident in the Internationals, Maple Leaf had been able to give no demonstration of her reputed speed. We had heard much, very much, of her 57-mile an hour spurt on the other side, and being from Missouri, at least in spirit, we were eager to be shown. Now we are wondering just how long that mile was on which the British boat is said to have made

such phenomenal speed. The sight of seeing her lifted on board the lighter, with Pioneer, preparatory to shipment back to her native isle, was final proof that Maple Leaf's much heralded debut in American waters was to be followed by a speedy exit, with no real performances. Permission to run the time trial for the Otto H. Heins trophy in England was not granted by the race committee.

Besides the mile trials in which Dixie

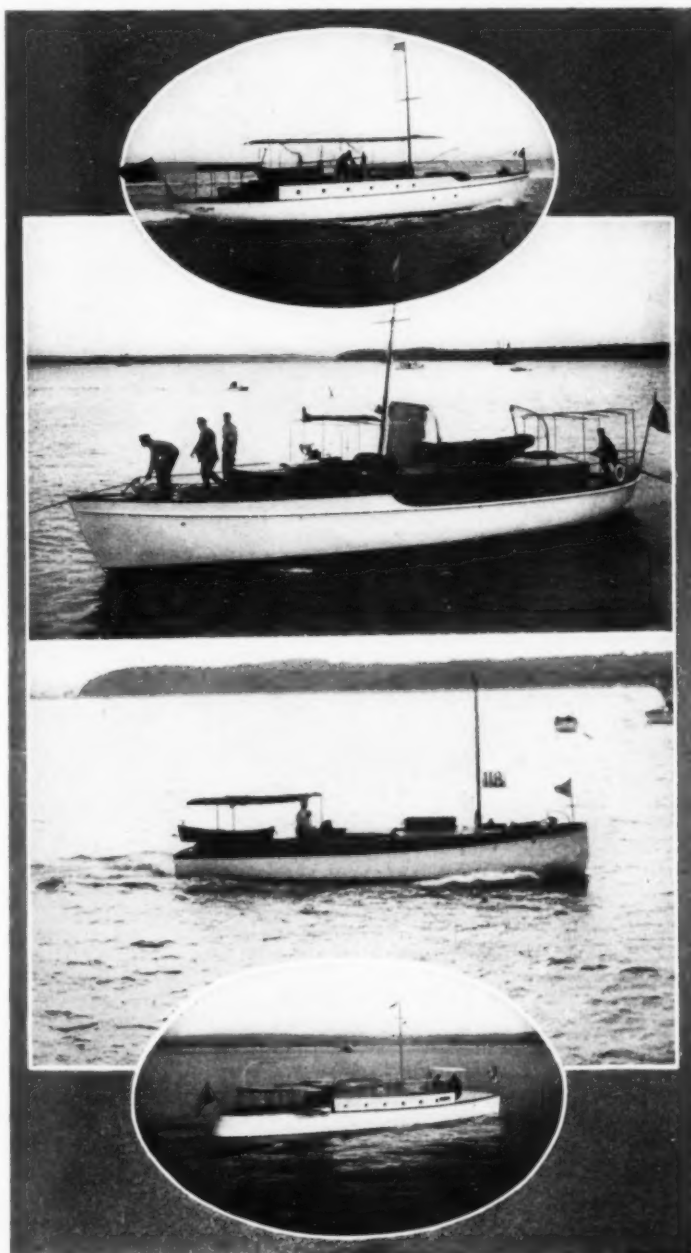
mile handicap race over the Stratford Shoal-Larchmont course. Lady Jane was the only starter in the class for boats over 60 feet in length. She covered the 58 nautical miles in 6hr. 8m. 6s. Of the class E cruisers, the famous Eronel finished first in 6hr. 34m. 18s. Adversities beset most of the other entrants. Semloh parted company with her rudder somewhere in the Sound, and as numerous seas were breaking over her, Commodore

Walter Sullivan, on W. F. Burrough's Ruth II, who was right astern, gave up his chances in the race and towed Semloh back to Huntington. XL, through an unfortunate error, was hailed by the revenue cutter Guide and told to return to port. Excelsior also withdrew, and Kitsix broke her steering gear and was towed into Port Jefferson. Canadice finished first in class F, followed by Elmo II. On corrected time, however, the race was won by Alfred S., owned by H. Soeldner.

One of the most successful of the cruising boats that took part in the Carnival was the veteran Avis, owned by F. C. Havens, a boat seven years old and a pioneer in her type of construction. On Wednesday, which was given over to races for cruisers and open boats—since a third International speed race was not necessary—Avis won everything in her class. In the morning the first of the series races for cabin cruisers and open boats took place. There were three classes of the former and each was well represented. The boats of the different classes were sent away five minutes apart, class D leading off at 10:35. The distance was 22½ knots. Avis was first to finish, and was first, also, on corrected time, defeating Kathmar II, owned by R. T. Fowler, and J. F. O'Rourke's Lady Jane by a small margin. Four boats started in class E, Spindrift, owned by C. R. Butler, winning. Semloh was second, and H. A. Johnson's Inevitable came third, the latter being the first to finish. Class F was the best represented, there being seven starters. Empire, E. F. Luckenback owner, crossed the line far in the lead of Canadice; R. D. Mills, and Nutmeg, W. A. Strong, which finished in a dead heat. On corrected time, however, the race went to Alfred S., James Craig's Classic coming next, and Empire third.

In the afternoon the sea was flatter than in the morning. The cruisers again started, only half an hour after the last boat to finish in the morning race had crossed the line. Avis again was victorious in class D, both her elapsed and corrected times being under that of Lady Jane. Spindrift and Alfred S. were the winners in their respective classes.

The open boats also had races in the morning and afternoon of this day; Bunk III, the property of Messrs. Meehan and Firth, win-



Lady Jane, Semloh, Eronel and Avis were prominent in the cruising events.

starred with her customary regularity and success, a long distance race for speed boats was slated for Friday. The distance was 150 miles. Breeze, Edith II, Gunfire, Jr., Sand Burr and El Tovar started, but after completing the first round all were called in because the strong wind was making the water unsafe for the smaller racers.

Meanwhile the cruisers of classes E and F were ploughing through the waves in the 60-

ning both times. All the racing on this day was in marked contrast to that of the first part of the week when the speed boats were darting about the bay, shooting spray and foam high and far, and leaving a trail like a comet's tail. On Wednesday none of the boats indulged in a speed greater than ten knots an hour except *Avis*, whose average speed for the day was 11.58 knots or 13.31 statute miles an hour. It was a striking example of the wide range of motor boat types.

The series races for cruisers were continued on Thursday, but the chief interest centered on the series races for speed boats of all but the largest class. As they were held both morning and afternoon at the same time as the cruising classes the waters of the bay were thickly dotted with the racers, the big cruisers moving quietly and sedately around the triangle, while the noisy speed boats seemed to be here, there and everywhere at the same time. The day overhead was fair in the morning and unfavorable during the afternoon, but on the water the reverse was the case, the strong wind of the morning whitecapping the surface thickly, moderating toward noon so that the sea was comparatively smooth by the time the afternoon races were called.

There were ten starters in class A in the morning race, the course of which was somewhat shortened on account of rough water on the outside leg. Perhaps the boat which at-

tracted the most attention was *Hazel*, the 16-foot hydroplane Elco boat, owned by A. E. Smith. She made the fastest lap of all, 11:38. She is the craft that since the Carnival won a unique race from Huntington to New London against Frank J. Gould's steam yacht, *Helenita*. Her high freeboard gave her somewhat the appearance of a cork as she bobbed over the waves; but a very animated cork, and a very noisy one, too. G. McKesson Brown's handsome racer, *Ran*, finished first, her elapsed time being 1:10:55; but A. V. Smith's *Edith II* won on time allowance in the morning race and *Hazel* in the afternoon. Nelson Doubleday's *Grizzly Bear* ran out of gasoline and withdrew, while *Peter Pan IV*, owned by J. Stimson, ran into an obstruction of some kind. Rear-Commodore J. S. Blackton's *Viva* was the winner in class C in the morning.

The winners in the final races of the series for the cruisers were *Avis* in class D, *Spindrift* in class E, and *Alfred S.* in class F. *Bunk III* was the winner of the open boat contestants, while *Sand Burr II* won in the afternoon, defeating *Nameless*, which was disabled in the morning event.

Saturday, the final day of the Carnival, was one at least on which the conditions were favorable for high speed. And speed boat events were on the program. Interest centered on *Dixie IV*, as was to be expected, but with the assistance of one of her engineers, R. B. Wasson, and the property known as inertia, she gave a little vaudeville act which was decidedly unexpected to both those aboard her and the spectators. The engineer accidentally kicked the clutch of the forward engine when the boat was going at high speed. So sudden

was the boat's stop that Mr. Wasson continued on his way, while the boat heeled over dangerously, and appeared to be about to turn turtle. Mr. Clinton H. Crane, the designer of *Dixie*, was at her wheel, and saved himself from following Mr. Wasson over the side only by hanging to the steering wheel. He brought *Dixie* about, and she went back and picked up the engineer.

Hazel also distinguished herself again on this day, winning on corrected time the speed boat race for class A. *Edith II* was next, followed by *Breeze*, *Ran* and *El Tovar* in that order. *Sand Burr II* captured more laurels, defeating *Viva*. She also ran and won the 75-mile race without a single stop, a splendid showing of her consistency. She made the distance in 3:14:56, an average of 28.08 statute miles an hour. In a speed trial of six nautical miles she averaged 27.28 nautical or 31.41 statute miles per hour. In a similar test *Viva* showed an average of 29.32 nautical, or 33.76 statute miles per hour.

The motor boat trophy for cruisers over 60 feet was taken by *Avis*, while *Bunk III* landed the open boat prize.

The big event was ably managed by the race committee consisting of Henry R. Sutphen, Ira Hand, Victor I. Cumnock and H. S. Shonard. The houseboat *Pioneer* of the Motor Boat Club of America was used as the committee boat and was stationed at the start and finish line. An enjoyable social program was arranged in connection with the Carnival, by Rear-Commodore J. Stuart Blackton as chairman of the entertainment committee. Dancing at the Chateau des Beaux Arts, band concerts, an exhibition of fancy diving, moving pictures, a reception on Commodore Blackton's steam yacht *Paula*, and fireworks at the Chateau, were among the entertainments provided.

Long Distance Race for Cruisers —58 Nautical Miles.

	Class D.	Elapsed Time.	Corrected Time.
Lady Jane.....		6:08:06	6:08:06
	Class E.		
Semloh	Disabled		
Eronel		6:34:18	6:34:18
Spindrift		8:17:13	7:35:41
	Class F.		
Excelsior	Disabled		
Alfred S.		8:26:12	4:46:16
Canadice		7:20:50	6:25:58
Elmo II.		7:48:39	6:07:47
Nutmeg		8:04:24	6:52:12
Ruth II.	Towed Semloh in		
Francis H.	10:10:00	6:56:37	
X L.	Withdrew through error		
Kitsix	Disabled		

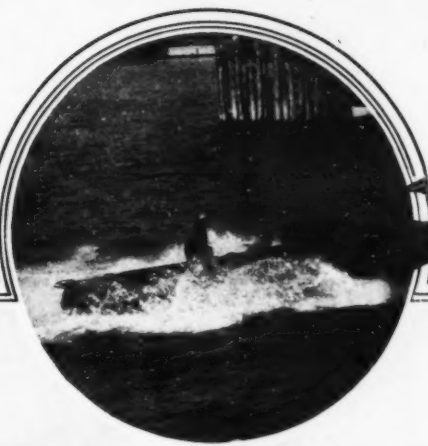
Seventy-Five Mile Race for Speed Boats.

	Elapsed Time.	Corrected Time.
Sand Burr II.....	3:14:56	3:14:56
Edith II.....	3:39:27	3:36:58
Breeze	4:08:26	3:05:57
Ran	3:35:18	2:46:35



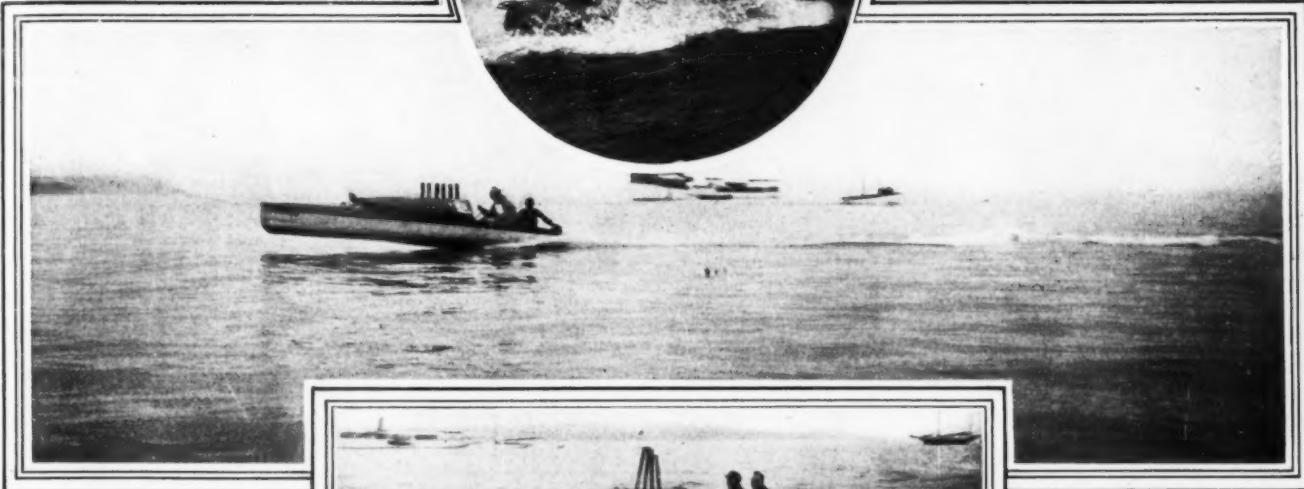
Above, the start of the class A boats; below, *Breeze I* and *Peter Pan IV* at top speed; insert, the remarkable sixteen-foot hydroplane, *Hazel*.

Besides the failure of the English boats to participate in the Carnival it is to be regretted that certain other speed boats prominent in other races throughout the country this year were not on hand to give the winners a run for their trophies, or perhaps to walk away with the latter. Of these, the Western boats are the most notable. The hard luck which has attended Disturber II throughout the whole season, culminating in the accident which occurred to her in the Internationals, when what was apparently the only floating



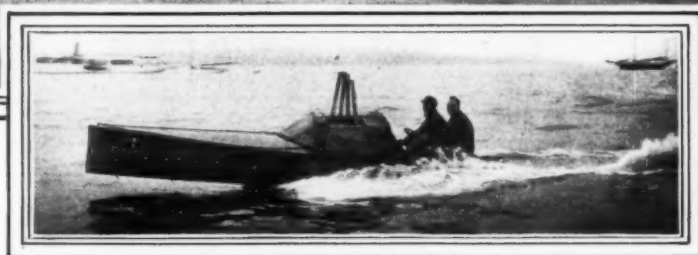
special attention to this boat which is owned by Lee Counselman, of Detroit, and the wish that she could have been present to fight it out with the other boats of her class. The retirement of Commodore Hughey, owner of Red Top III, from the racing arena, is responsible for the failure of another Western boat which has a record from appearing at the Huntington course.

All in all it was a carnival which we may look back upon as one of considerable interest and importance, for it



obstacle in Huntington Bay pierced her thin hull, prevented this famous boat's participation in the Carnival. The fact that Commodore Pugh's craft made a mile at the rate of 38.54 demands that special attention be given Disturber, and but for the disturbing elements, that seem always to attend her, her owner would have undoubtedly carried back with him a trunkful of prizes.

Kitty Hawk is another Western boat



Duc, Sand Burr II and Gunfire III.

Note how Sand Burr climbs out when at full speed and the shape of her bottom.

which was conspicuous by her absence. Her victory over Sand Burr II at Atlantic City, coming as it did on the heels of the latter's remarkable showing at the Carnival, brings

marks conclusively that speed boat racing has taken another stride and attained a faster notch than ever before. It was a shining contrast to the Carnival of the preceding year.

The congregation in Northern waters of so many speed boats and the fact that a surprisingly large number of them seem to be in working order, led the Motor Boat Club of America to arrange a special race for speed boats on the Hudson River for September 28.

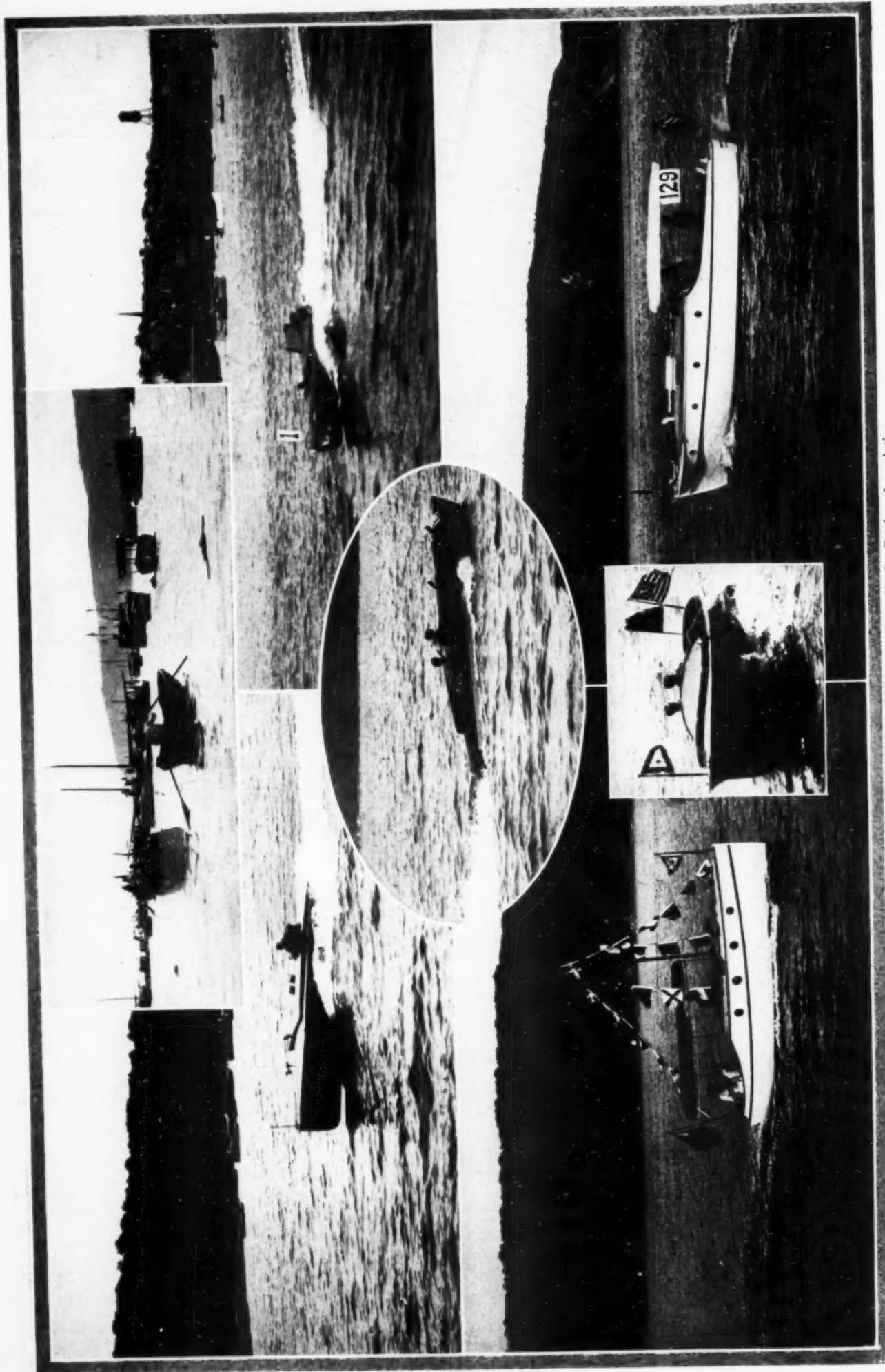
Table of Summaries of the Annual Races of the National Association of Engine and Boat Manufacturers.

SPEED BOATS.

Boat.	Owner.	Rating.	Allowance.	Elapsed.	Corrected.	Points.	Elapsed.	Corrected.	Points.	Elapsed.	Corrected.	Points.	Total
Series Races, Class A.													
Thursday, 20 Miles.													
Peter Pan IV.....	Jas. Simpson.....	68.60	29:09	1:18:57	50:48	5	1:17:57	49:48	7	Did not start			12
Breeze I.....	S. S. Breeze.....	66.47	31:08	Did not finish			1:21:00	49:52	6	1:23:31	47:36	8	14
Chin-Chin.....	H. H. Melville.....	63.54	35:46	1:21:46	46:00	6	Did not start		0	Did not start			6
Vita.....	J. S. Blackton.....	64.51	34:10	1:18:32	44:22	7	Withdrew		0	Withdrew			7
Edith II.....	Arthur V. Smith.....	66.74	31:08	1:14:13	43:05	10	1:12:18	41:10	9	1:22:49	46:54	9	28
Hazel.....	Albert E. Smith.....	59.09	43:34	1:27:31	43:47	9	1:21:38	38:24	10	1:27:34	37:19	10	29
Grizzly Bear.....	N. Doubleday.....	57.51		Broke plank			Ran out of gasoline		0	Withdrew			0
Vas Y.....	Chas. Werner.....	57.24	47:02	2:06:44	1:19:42	3	2:08:40	1:21:38	5	Did not start			8
Ran.....	G. McK. Brown.....	69.75	26:40	1:10:55	44:15	8	1:13:08	46:28	8	1:26:39	55:54	7	23
El Tovar.....	A. Chesebrough.....	97.56	allows	1:15:18	1:15:18	4	Did not start		0	2:02:23	2:02:23	6	10
Tiny Tad.....	Dr. H. Z. Pratt.....	71.00		Did not start			Withdrew		0	Did not start			0
Series Races, Class C.													
Viva.....	J. Stuart Blackton.....			1:13:03		2	Did not start		0	1:42:21		1	3
Nameless.....	Heckscher & Melville.....			Did not finish			1:04:14		1	Did not start		0	1
Sand-Burr II.....	A. K. & C. D. White.....			Did not start			1:02:55		2	1:19:12		2	4

CRUISERS AND OPEN BOATS.

CRUISERS AND OPEN BOATS.													
Boat.	Owner.	Rating.	Allowance.	FIRST SERIES RACE.			SECOND SERIES RACE.			THIRD SERIES RACE.			Total
				Elapsed.	Corrected.	Points.	Elapsed.	Corrected.	Points.	Elapsed.	Corrected.	Points.	
Class E Cruisers.													
Avis	F. C. Havens.....	64.62	Allows	1:53:44	1:53:44	33	1:54:38	1:54:38	3	1:53:15	1:53:15	3	9
Kathmar II	R. T. Fowler.....	61.47	4:23	2:11:24	2:07:01	1	Did not start		0	Did not start		0	1
Lady Jane	J. F. O'Rourke.....	60.30	6:13	2:04:03	1:57:50	2	2:03:57	1:57:44	2	2:00:52	1:54:39	2	6
Class D. Cruisers.													
Spindrift	C. R. Butler.....	42.57	30:30	2:42:39	2:12:09	4	2:39:10	2:08:40	4	2:39:39	2:09:09	4	12
Semloh	E. B. Holmes.....	47.85	16:08	2:29:46	2:13:38	3	Did not start		0	2:25:32	2:09:24	3	6
Inevitable	H. Alex. Johnson.....	55.44	Allows	2:21:22	2:21:22	1	Did not start		0	Did not start		0	1
Eronel	Sam'l Cochrane.....	48.26	14:55	2:29:57	2:15:02	2	2:30:05	2:15:10	3	2:26:30	2:11:35	2	7
Class F. Cruisers.													
Excelsior	T. Trolsen.....	44.60	Allow	2:37:46	2:37:46	3	2:26:48	2:26:48	5	2:27:58	2:27:58	6	14
Alfred S.	H. Soeldner.....	28.94	1:08:29	2:13:53	2:05:24	7	2:25:04	2:16:35	7	3:14:41	2:06:12	7	21
Empire	E. F. Luckenbach.....	44.10	1:26	2:30:56	2:29:30	5	Did not start		0	Did not start		0	5
Canadice	R. S. Mills.....	43.10	4:23	2:50:50	2:46:27	1	2:43:57	2:39:34	3	2:43:27	2:39:04	5	9
Elmo II	F. D. Giles, Jr.....	37.92	22:13	2:58:22	2:36:09	4	2:51:31	2:29:18	4	3:03:26	2:41:13	4	12
Classic	Jas. Craig.....	33.54	41:47	3:02:50	2:21:03	6	3:04:46	2:22:59	6	Did not start			12
Nutmeg	W. A. Strong.....	41.00	11:06	2:50:56	2:39:50	2	2:54:36	2:43:30	2	2:55:21	2:44:15	3	
Class G Open Boats.													
Anna V	C. VonCulin.....	38.52	2:34	1:55:34	1:52:40	3	1:54:11	1:51:17	3	Did not start			6
Bunny	Arthur Haas.....	39.75	Allow	2:11:18	2:11:18	2	2:08:52	2:08:52	2	Did not start			4
Bunk III.....	Meekin & Firth.....	37.44	5:48	1:48:35	1:42:47	4	1:47:56	1:42:08	4	55:38 stopped by Committee after 1st round		4	12
Dolphin	C. A. Meissner.....	36.18	9:08	2:32:27	2:23:19	1	Did not start		0	Did not start			1



The seventh annual regatta of the Hudson River Yacht Racing Association. Above, the anchorage of the Yonkers Yacht Club; to left, Peter Pan IV, winner of the Elliot Cup; in center, Elmer L. II, first in the free-for-all but disqualified, and winner of Class I; on right, Al Traver, formerly Emerson; below, on left, Con-sort; in middle, Buck III, winner of the sport boat class, and on right, Marie Louise, the winner of the cruiser class.

Suggestions for Hauling Out.

The Importance of Care at This Time to Prevent Undue Deterioration of the Boat and Engine.
Some Lessons Learned Last Spring After the Winter Had Done Its Work.

THE PRIZE CONTEST—Answers to the First Questions in the August Issue.

Advice from Experience.

The Prize Winning Answer.

ASSUMING that every motor boatman, great or small, drains his engine thoroughly—there is always a cock or plug for this purpose somewhere—runs it for half a minute to dry it out, pours in through plug-hole or priming cock, half a gill or so of good oil, giving the flywheel a couple of turns to spread it evenly over the cylinder walls; that he leaves no water in the bilge, to freeze and freeze planking away from rib and keel, and that all electrical equipments, cushions or perishable properties are removed and safely stowed away, then to cover over and tie down, would seem to be all that was required. But in the larger craft, especially, there are many details needing attention for the preservation and betterment of your boat.

I shall leave open the door of every locker, closet and drawer. Leave slightly open a port or window forward and aft, or if you have a cowl and after-deck plate open these, protected by an inverted pail or pan, held down by a brick or stone; then by turning up the usual loose floor planking your draft will be continuous; try it with a lighted match and see. Break all loose water connections to galley pump, lavatory, etc., a few strokes of the plunger will suck everything dry. If cushions and mattresses are to be left in turn them on

edge. If your mirrors are not built in, remove them to a dry, warm place; any moisture is fatal to the silver backing. Of course, shut off your gasoline at the tank. I shall not remove what may remain, unless it be necessary to flush the tank—a disagreeable job, now happily rare—as no one seems to have the hardihood to fill up with gasoline unstrained.

I have learned that it pays to remove whistle, steering wheel, etc., even if covered over and you are in a "safe place." I shall securely tie a bag or piece of strong cloth around the outboard end of the shaft, after removing the propeller, for I believe this will prevent the inquisitive "kid" from taking out a carefully feathered in key, to see how it was made.

A coat of varnish on bright work, in the late summer, will make you spick and span for the races, and protect the wood from the winter's blast. If briny, wash it off, to prevent corrosion and "blooming," making it necessary to remove varnish the next spring. A thin coat of white paint will go on hull after hauling out, it holds the seams together, and when washed clean you have a thoroughly dry first coat ready for your glossy finish.

A ridge-pole, clearing cabin, etc., by a foot or more will be beneficial by holding the cover at an angle and away from your roof, shedding snow and water, something that a flat-drawn cover never can do. One can be easily and cheaply made from 2 x 4s, cut to proper height, and held together by a single bolt

"shears" fashion, for the supports. The pole proper is made by lapping pieces of sufficient length together, held in place by two bolts to prevent "buckling." The cost is nominal, it is strong, and can be closed up and stowed away almost anywhere.

The canvas cover heretofore reaching just below the rub streak, and fastened by a rope drawn over and under, will have another breadth sewn on both sides, with grommets every little way along the bottom. Ropes of proper length will run underneath from one side to the corresponding grommet on the other, fastened with two simple half hitches. It is a long job to reeve and lace a couple hundred feet of line; these short, individual ropes are quickly tied.

When removing cover only one side need be loosened, the lines thrown into the center of the canvas and folded away for the next time.

The deep cover will protect your seams that the warm April winds open up so badly, and will "strain the wind" coming in your open ports or windows, holding the temperature very much higher than it would be if the openings were not protected. In a boat treated this way last year, a registering thermometer showed only ten degrees below freezing.

I am fully convinced that these simple precautions will make the usual depreciation almost a negligible quantity.

MATT McCARTY, Albany, N. Y.

THE PRIZE CONTEST IN QUESTIONS AND ANSWERS

THE fire is crackling again in the club-house fireplace and we have satisfied for another season that craving to be on the water, that grows again through the winter and breaks out afresh every spring. At this time our enthusiasm is apt to be at its lowest ebb and there is a strong temptation to hustle through with the job of laying up the boat for the winter—keen to be off on the new activities of the autumn. The object lesson that the neglected boat presents in the spring is a mighty good one for the novice—but expensive, and the answers to the first question should, if heeded, prevent such "horrible examples."

THE problem of running water for the cruiser is an important one—though simple enough. Some advocate the gravity system and others swear by the pressure. Several variations of both systems are discussed in the answers to the second question and with all phases of the problem so clearly presented, the man planning a boat should be materially helped in choosing a system or installing one.

THE answers to the last question deals with the subject of tides and their action in relation to river currents, etc., and even those of our number, oldest in the game, should welcome such a discussion—knowing as they do that thoroughly to master the subject requires a lifetime of experience. In the questions submitted this month there is offered an opportunity to motor boatmen of all classes, from the handy man to the theoretical crank—an opportunity not only to help others, but to get something for the trouble.

THE QUESTIONS FOR THE DECEMBER CONTEST ARE THESE:

Give instructions and drawings, if necessary, for the construction of an awning for the cockpit of a raised deck cruiser.

When you send in your answers, state what you will take if you win a prize.

struction of an awning for the cockpit of a raised deck cruiser.

Suggested by F. H. Maloney, New Haven, Conn.

What is the best method of truing up propeller blades that have become bent?

Suggested by T. P. Archer, Louisville, Ky.

Discuss the "long stroke" versus the "short stroke" marine engine, giving the advantages of each.

Suggested by Charles J. Roese, Buffalo, N. Y.

ANSWERS to these questions, addressed to the Editor of MOTOR BOATING, 381 Fourth Ave., New York, must be:

(a) In our hands on or before October 25, (b) not over 500 words long, (c) written on one side of the paper only, (d) accompanied by the senders' names and addresses. (The name will be withheld and initials or a pseudonym used if this is desired.) Questions for the next contest should reach us on or before the 25th of October.

THE PRIZES ARE:

For each of the best answers to the questions above, any article advertised in MOTOR BOATING, of which the advertised price does not exceed \$25, or a credit of \$25 on any article advertised in MOTOR BOATING, which sells for more than that amount.

(There are three prizes, one for each question, and a contestant need send in an answer to but one, if he does not care to answer all.)

For each of the questions selected for use in the next contest, any article advertised in MOTOR BOATING, of which the advertised price does not exceed \$5, or a credit of \$5 on any article advertised in MOTOR BOATING, which sells for more than that amount.

For all non prize-winning answers published we will pay space rates.

In the Fall Prepare for Spring.

ALTHOUGH enthusiasm is low at the close of the boating season, considerable labor and expense can be saved in the spring, if a few precautions are exercised.

The most essential thing to do after pulling her out for the winter, is immediately to clean off the season's growth of slime and plant life from the hull, which if allowed to dry, would have to be scraped. This can be done very readily while near the water, with the aid of a scrub brush and some gritty household cleanser, easily procured from any grocery, and in the spring, after scraping the rough spots and smoothing with sandpaper; the hull will be in excellent condition for painting.

When storing your boat in a warm place, a few buckets of water in the bilge will keep the seams tight. It is almost unnecessary to mention that a good canvas cover will save your boat, especially if exposed to the severe winter weather, and a strong cradle or stout shorings properly fastened may prevent a serious accident.

If the planking below the water-line is very bare, a coat of good copper paint may be applied in the fall after a few weeks drying of the hull, as a further protection from weather conditions.

When burning off the paint, the original water-line may be saved by cutting a V-shaped groove along the same, or by making a depression with any sharp-pointed tool, guided by one or two slender battens nailed to the hull. This makes a permanent water-line and likewise an easy one to follow with a brush.

As for the power plant, a gas engine demands a good overhauling for the next season's service, and by all means the draining of the cylinder to prevent freezing. Logically, it should be completely knocked down in the fall to ascertain internal conditions and if necessary, new parts be ordered from the manufacturer at an early date—thus avoiding delay in shipment in the spring. This gives the boatman ample time to ease up the piston rings by a thorough soaking in kerosene, remove carbon from the cylinder walls and piston and re-babbit worm bearings during the winter. After cleaning all the units in gasoline, they should be oiled and laid out of the way, but where easily found when assembling the motor in the spring. Your storage battery will also need to be fully recharged before setting it away for the winter.

As a safeguard against stealing, it is a wise plan when storing your boat to detach and lock up, or better, take home any brass or costly fittings, such as the propeller, running

lights, steering wheel, binnacle, spark coil and other deck hardware.

If these few suggestions are carried out, when "laying her up," there will be no regret of time spent when "fitting her out" in spring.

HARRY A. MOTZ, Philadelphia, Pa.

Beware the Rust.

I PROPOSE to profit by experience when laying up my power plant this winter and expect to find the motor in generally better condition as a result. First, I shall clean out all grease and oil deposit from under the motor—scrape it out with a cabinet scraper so as to make a clean job—then wash the planking with strong soda solution. There's a reason for such care. First, possible danger from fire will be averted because of absence of grease in a hard-to-get-at place. Second, the bilge pump will work more easily in plain water than in a greasy mess, and removal of the accumulation will prevent the entire inner hull from becoming saturated with the ill-smelling stuff.

Thin sheet brass is not expensive and I shall use it to sheath the space under the motor and well up to the bilge. A rag or bunch of waste will thus easily remove splatterings and droppings from the motor, keeping it away from the wood, and make the work of extinguisher or sand bucket doubly effective by eliminating, so far as possible, food for fire. In laying up the motor I plan to back out every iron machine bolt, coat each with a mixture of boiled linseed oil and graphite, and then replace them. I do this so that the parts may be readily disassembled in the spring. Oil and graphite have no sympathy for rust and make a fine and cheap joint composition.

Care will be taken to leave no metal on white-painted surfaces in the cabin because such things, particularly tools, can openers, nails, or cooking utensils are bound to rust more or less and leave ugly stains that are hard to remove without spoiling the finish. All built-in ice chests should have removable trays that insure easy cleaning and stowage in some dry place. A leaky tray is an abomination that can readily be avoided with proper precaution. Don't forget the plug in the bottom of the boat and have the hole at least 1 1/4 in. After the craft has been blocked up for the winter fill her almost up to the floor with water with the plug in. Then give the bottom as thorough a sluicing as possible and let the solution composed of almost everything from a shirt stud to a hairpin drain out through the plug-hole. That trouble will go a long way to make the boat smell sweet instead of musty.

Water frequently finds its way into the whistle tank and the accumulation, if I shall find it, will be disposed of before the laying-up

process is completed. That's another precaution against rust. And I shall draw the propeller shaft from the main shaft coupling, coating it with some of the oil-graphite paste before shoving it back home. That done, there ought to be no difficulty in getting the shaft out next spring should I decide on changes about the machine. Most everybody removes propellers when laying up. That, too, becomes an easy matter if the paste has been used to establish a film between shaft and hub.

In future I shall keep on the defensive against rust, even climbing into the boat every few weeks next winter to give the balance wheel a few turns so that the oil with which I shall dope the cylinders may be thoroughly deposited and renewed and so obviate sticking of the piston when the blue birds come again.

WEST WIND, Boston, Mass.

Circulation of Air Important.

THE experience gained from last fall will lead me to have my cruiser hauled out well beyond the high-water mark and have her securely blocked up, especially under the engine. The blocking will be spaced about six feet apart, to keep the keel true and thus prevent hogging.

A portion of the cabin flooring will be taken up and the inside of boat thoroughly cleaned and washed out. All lockers will be opened up so as to allow the moisture to get out and the air to get to all parts that have been closed up. After the planking has become sufficiently dry, a coat of paint will be applied which will dispense with much labor in the spring.

The engine being too heavy to take out and stow under cover, will be taken apart and the carbon which may have formed, removed, and the bright parts painted with asphaltum thinned with turpentine, which absolutely keeps off the rust and is easily removed in the spring by the application of kerosene. The boat will be covered and protected from the elements as follows: A sectional ridge pole will be installed on the deck and a canvas cover extending from stem to stern and down to the water-line with grommets in the edges about three feet apart, will be placed over the ridge pole and securely roped under the keel and around stem and stern. During the winter, as opportunity will permit, the cover can be raised allowing the boat to be thoroughly aired, which will greatly tend toward the preservation of the hull.

Of course, the compass, storage battery, propeller and other readily moved paraphernalia will be stored in the club-house locker or carried home.

JOHN CLITHEROE, Attleboro, Mass.

Running Water for the Cruiser.

Descriptions of Both the Pressure and Gravity Systems With a Number of Modifications. One of the Important Problems of Marine Motoring Solved by MoToR BoATinG Readers.

THE PRIZE CONTEST—Answers to the Second Question in the August Issue.

Uses Cooling Water.

The Prize Winning Answer.

IN the larger cruiser of this class this is a fairly simple proposition, space affording the installation of nearly every convenience. In the smaller cruiser of 35 feet, or thereabouts, the problem is different, and on account of its difficulty such a system must be very carefully thought out. Yet, though space is at a premium, any boat of that size may have what was aimed at by the writer: water at pressure in sink and lavatory; at ice-water spigot; and, if desired, for flushing toilet.

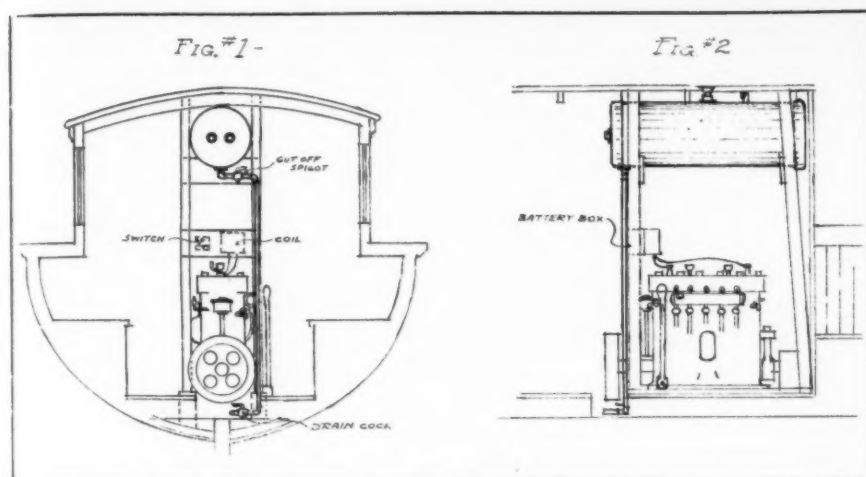
We use a galvanized tank of fifty gallons' capacity. That there may be good fall the bottom of the tank must be three feet above

the highest faucet, if possible. To accomplish this and still have capacity the tank was made broad and long, though shallow, and while in many boats it may not be necessary, in our 35-foot raised deck cruiser the tank is kept as high as possible in the bow compartment, occupying all of its highest space. As the bunker for chain and cable is below, we made a 6-inch hole through the center of tank just under the chain-pipe on deck, and have the novel effect of dropping our chain and cable directly through the water-tank; or rather through the hollow column soldered in its center. By making tank deeper we could have secured seventy-five gallons' capacity and still have good fall, but previous experience taught that fifty gallons was the outside amount con-

sumed on the usual cruise, and "enough's enough"—i. e.: make your tank of capacity to cover the need and no more, for water contained in a closed tank becomes stale.

The water is piped direct from tank to faucet at sink and lavatory; to ice-water faucet—though in this line is a coil of pipe passing through ice-chamber of refrigerator which is kept packed with ice; and to flushing tank in connection with toilet, for with our installation a pump closet is not necessary.

This brings us to our other source of supply: the circulation water. Only enough of this goes overboard through muffler to keep it safely cool. The remainder is piped so that in sink there is both hot and cold water available when engine is running, and dish-washing



Mr. Leland installed his tank on stanchions above the engine.

is generally accomplished under those conditions, even if we have to operate engine idle a bit. It is also piped to toilet flushing-tank, the waste finding its way overboard through an automatic valve, not overflowing, however, until it has stored up enough water in an auxiliary tank to flush many times.

The piping may be extremely simple or elaborate, as you please, but we give here some of the points we have learned: Use nothing but self-closing spring faucets; keep all your piping brass, and use copper tanks; do not use outside tank on roof; if possible introduce a $\frac{1}{2}$ -inch gear pump in circulation system and you will be surprised at the volume of hot water you get.

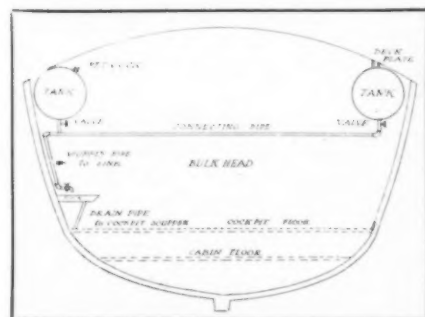
W. F. L., Norwich, Conn.

The Gravity System.

THE desirability of plenty of fresh running water for drinking, cooking and washing purposes in a small cruiser is obvious. Two systems are now in use. In one the tanks are above the outlets and water is fed to them by gravity. In the other the tanks are located under lockers, floors, etc., and water is raised by pumps or air pressure to the points desired.

The gravity system is the simplest to install and maintain. I placed a stock galvanized cylindrical tank, 14" x 48", of 32 gallons capacity, over my engine. It is supported on four oak stanchions, two at each end, which run from the engine bed to the roof carlines. Cross braces on each pair of stanchions are cut out to receive the tank, which is firmly held between the braces and the roof carlines. The tank is filled through a vented deck plate.

A $\frac{1}{2}$ -inch pipe flange was sweated on the bottom of the tank at its front end. From this flange a pipe is carried on one of the stanchions to the bilge, where it is branched off to the galley and lavatory. A cut-off spigot is located next to the flange and a pet-cock in the bilge provides for draining the system. The two front stanchions are handy to grasp in a rolling sea and also stiffen the roof. Their lower ends rest on the engine bed between the flywheel and engine. Above the engine a box



The system with two tanks described by F. M. Comee.

is formed by boards on the back and front sides of the stanchions, the stanchions forming the sides, in which the dry cell battery is located. On the side of the box next to the engine the coil and switch are placed, and the grouping of batteries, coil and switch together over the engine simplifies the wiring system. The two rear stanchions support the back end of the tank, stiffen the roof, provide hand-holds and a desirable place between them for an oil tank, shelves, etc.

As there is a clear space of several feet between the tank and engine the latter can be entirely removed from its bed without touching the tank, and an unobstructed view from the windows is obtained. The only objection to the stock tank is that when it is partly empty the water in it splashes if the boat pitches or rolls, due to the absence of baffle plates in it. I carry an auxiliary tank and fill the large tank from it at night to insure quietness. Next year I shall use a square tank of increased capacity and sufficiently equipped with baffle plates to overcome the objection noted. The tank, pipes, etc., are finished in aluminum. In the accompanying sketches Fig. 1 shows the front view of the tank, engine, etc., and Fig. 2 a side view, with the location of the various attachments plainly shown.

HARRY G. LELAND, Baltimore, Md.

Two Connected Tanks.

THE running water problem was solved on a forty-foot raised deck cruiser in the following manner. It was found upon examination that nine-inch tanks could be hung in the upper outside corners of the cabin roof over the transoms and be entirely out of the way. A local tin-smith was consulted and from him were obtained two tanks of sixteen-ounce copper, nine inches in diameter and six feet long.

These were securely fastened in place with one end against the forward bulkhead, care being taken to see that they were put up in such a manner that they would not work loose in a seaway. They were connected from the bottom sides by a one-inch brass pipe running along the forward bulkhead with a shutoff valve for each tank. There was a connection for filling in the starboard tank running up through the deck and closed with a water-tight deck plate.

The discharge pipe was taken from the lower after end of the port tank and run along the cabin wall to the sink which was on the port side in the galley at the after end of the cabin. The drain pipe from the sink was run through the after bulkhead into the cockpit and then to the forward port scupper. A small pet-cock was placed on the port tank just over the discharge pipe so that no vacuum would be created when drawing water or any air pressure to be overcome when filling the tanks.

This system gives one nearly forty gallons of water in two tanks, running under its own

head and requiring no pump. The pipe and fittings are all brass so as not to influence the compass and the total weight with full tanks will be about four hundred and eighty pounds.

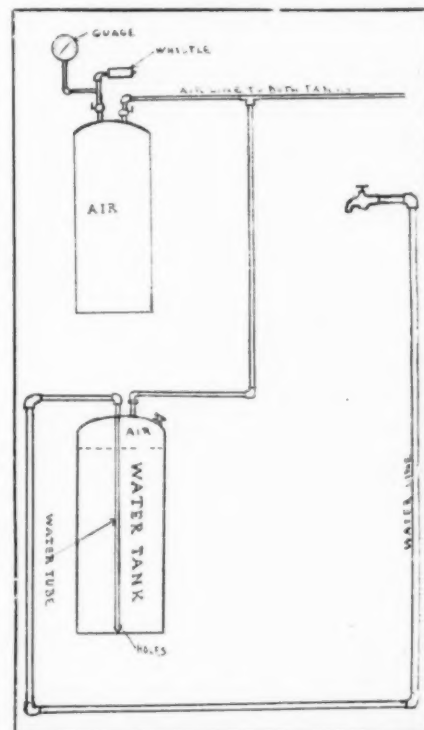
By the addition of a filling connection and deck plate for the port tank and a pet-cock for the starboard, either tank can be used independent of the other or one may be held as a reserve supply if desired.

F. M. COMEE, Cambridge, Mass.

Pressure from Whistle Tank.

WHEN completed as per sketch this system will allow water to be drawn at any distance or height according to the amount of pressure usually carried in whistle tank.

Air is compressed by the usual method of an air pump attached to the engine and connected to the air tank shown in the diagram. A cock, not shown, prevents the air from passing directly into the water tank. The air stored in the air tank may then be used for operating the whistle, or by opening the cocks in the pipe line it may be forced into the water tank shown as the lower tank in the diagram. In this tank and extending to a half inch or so from the bottom of it is a tube which comes to a point and has holes drilled through it for admitting the water. This water line can then be carried to any part of the boat desired.



Mr. Marx obtains his pressure from the whistle tank.

With a pressure of twenty pounds one can draw water a distance of twenty or thirty feet until tank is empty. An air gauge is placed on the air tank near the whistle as indicated.

CHARLES O. MARX, Brooklyn, N. Y.

The Pressure System.

THERE are two methods of circulating water in a cruiser, by gravity and by pressure. The gravity system has but one advantage, that of low cost; but it has defects of a serious nature, some of which are: (1) Tank harder to fill, because water must be raised up; (2) water soon becomes flat and vapid, and (3) a tank of water is a heavy and shifting weight and hence undesirable on top of a small cruiser. For these and other rea-

sons the writer soon abandoned it for a pressure system, as follows:

Tank.—Securing a regular galvanized range boiler, all holes were plugged but two, and these latter were reduced to $\frac{1}{4}$ " pipe size. On top were screwed the necessary fittings for entry of water and air pressure. At lower side opening a $\frac{1}{4}$ " nipple was screwed for outlet.

Piping.—While flexible copper tubing is desirable for gasoline, it is even more so for circulating water. Some of its advantages are: Lack of joints, which means lack of trouble from leakage; absence of sharp angles in carrying around corners, which, taken in connection with its smooth bore, means much freer flow with any given pressure; it rarely breaks when water freezes in it; and, used in connection with Imperial fittings, which require no soldering, it can be installed with a minimum amount of labor and expense. The writer has two leads from tank, one of which runs to galley sink and one to ice-box, where the tubing is coiled to lie flat on the bottom in ice compartment and thence carried to a faucet or bulkhead. The use of this tubing with flared fittings is so simple as to require no explanation, but it might be said that the tubing is better strung overhead than below floor, for two reasons, namely, by opening relief cock on tank the whole system is immediately drained, which is a distinct advantage in freezing weather; and, secondly, installation is much easier accomplished overhead.

Filling Tank.—The filling of these tanks without spilling is not easy, especially when they are in some inaccessible locker, so a hook was placed in nearest carline, the pail hung on hook, and a hose from top of tank attached to cock placed in bottom of one of the pails; by this method all the water gets into tank without the disagreeable and uncertain task of pouring, and tank can be placed anywhere.

Pressure.—Air is forced into this tank with an auto tire pump with gauge attached, but gauge is not a necessity.

If one has an ice-box, by all means run a coil into it, as cool water is a luxury on a hot day. Tubing of $\frac{3}{8}$ " size is used with $\frac{1}{4}$ " pipe fittings and $5/16$ " tubing with $\frac{1}{8}$ " pipe fittings. All parts of this equipment are standard and can be obtained anywhere.

FRANK PORTER, Detroit, Mich.

Pressure from Tire Pump.

AFTER deciding how much water you want to carry determine the size tank necessary. If room is limited the tank or tanks can be placed where they will be entirely out of the way; under the floor, for instance, where, if kept well filled, they will serve as ballast. If you use a shaped tank have a small nipple; eighth-inch will be large enough, soldered to the top. If a standard round tank can be used the nipple is best tapped into the filler pipe just above the tank. Remove the plunger from an ordinary bicycle valve and solder the valve to a coupling same size as the nipple. When cool replace plunger and attach to tank. The filler cap should be air tight; closing on a rubber washer if necessary. Securely fasten the tank and pipe up with galvanized pipe.

If you have not the dies to thread the pipe a plumber will do the job for you in a couple of hours. All joints must be tight as well as your taps or your pressure will leak.

If it is necessary to use two small tanks in order to place them in some unused place connect them across the bottom and put a T in the connecting pipe to draw from; and put the air valve in a connecting pipe across the top. The filling pipe can be attached to either tank, or to the connecting pipe if there is an outlet for the air while filling is provided. A pressure gauge would be convenient, although not necessary.

After tank is filled nearly to the top (I say nearly filled because there must be some space for air) attach an auto or bicycle pump to the valve and pump up enough pressure to deliver the water well. If the whistle tank is supplied

by an air compressor you need not use a pump but connect a pipe from the whistle tank. If the water tank is sufficiently strong the full whistle pressure may be applied and left on by putting a check valve next the water tank. When the tank is full, pressure will not last long but it won't take more than three pumpings to empty the tank. This system works splendidly for suburban residence and there is no reason why, if installed as above, it will not prove satisfactory on the cruiser large or small.

W. B. MOORES, Newburgh, N. Y.

Water Tank in Fore Peak.

IT is advisable in small cruisers for the sake of two systems: gravity or pump. As the fresh water tank on as high a level as possible so that water will flow from it by gravity to the faucets. This does away with troublesome pumps and the nuisance of always keeping air pressure on the tank, both of which systems are undesirable in a small craft. In cruisers of the raised deck type the fore-peak offers a good location for the tank, sufficient height being usually obtainable even when space for cable storage is desired above it.

The tank is built of tin-lined copper or of galvanized iron, the former material being preferable but much more expensive. A capacity of from 30 to 50 gallons is usually required and the tank should be formed to fit the space available, and fitted with suitable swash plates to prevent it from straining in a seaway. The piping may be of brass or galvanized iron, the sizes being about the same as are common in house practice, and the faucets preferably of the spring-closing pattern to avoid the chance of excessive waste or flooding.

It is rarely that more than two faucets are needed on small cruisers. The toilet should have one piped to the folding lavatory or wash basin, and if, as is often the case, the toilet is way forward this piping is a very simple matter. Nickel plated piping and fittings may be used where they are exposed to view, providing the other metal equipment is in keeping. It is not wise in boat work to permanently cover piping or run it behind ceiling or sheathing as leaks cannot then be easily located and stopped.

The second faucet should be located at the galley sink, and an excellent arrangement where possible, is to carry the piping from the tank to the refrigerator on a level with the grating upon which the ice rests, and carry it through a hole into the ice chamber where a pipe coil or grid is fitted upon the ice grating. This should be formed of quarter turns, nipples, and short lengths of pipe. Upon this pipe coil the ice will rest. The other end of the pipe should be taken out of the opposite side of the ice-box and run as usual to the sink in the galley space. The advantages of the above method are obvious. There will always be several glasses of cold water available for drinking purposes without special preparation, since the water in the coil is close to the ice and will remain cold as long as there is any ice remaining in the box. The extra expense is not serious and the only requirements are a suitable location of the ice-box in relation to the galley and tank. A good filter attached to the faucet from which the drinking water is drawn will add a feeling of security when the tank must be filled while cruising in strange waters, and the source of supply is doubtful.

ALLAN O. GOULD, Portland, Me.

Suggests a Milk Can.

ASUPPLY of running water must be one of two systems: gravity or pump. As the latter admits of the tank being placed almost anywhere about the boat, it is most frequently used, and I have found for this purpose—if it can be placed upright—an ordinary forty or sixty quart milk can, to be most efficient, from all points. First and foremost it

offers peculiar facilities for cleansing, it is block tin dipped, can be scalded out and wiped dry with the hands, and refilled from either a hose or a bucket. The deep flange on inside of cover absolutely prevents splashing, and the mode of attaching to pump is simplicity itself. Cut or drill a hole through the cover suitable for a half-inch brass pipe, one end threaded for loose connection or coupling—obtainable at any plumber's or tin shop—push the pipe through the hole almost to the bottom of the can, and solder fast to top of can. Attach pump feed of lead pipe with the loose coupling thereon, to the threaded brass pipe, and you have a water supply, clean, removable by unscrewing one coupling, and at a nominal price. When the can may not be used, and local conditions govern shape, etc., I find a tank of heavy galvanized iron with interior bracing or swash plates excellent for this purpose, and connected to the pump in the same manner as the can.

A three or four inch filling plate with screw cap, obtainable at any marine supply house, should be soldered into the top of the tank; this will admit your hand with a dish mop for cleansing the tank, as well as for refilling. In the gravity supply the source must be higher than the tap, and here again the upright milk can may come into play, only in this instance solder in an ordinary "bibb" near the bottom, making connections as usual with lead pipe. This works well in any position, besides being far easier to install than brass piping, with no leaky joints.

A square tank, or one built to fit any particular place, is much easier cleansed than a cylinder, for the latter, unless specially made, has no hand hole and soon gets musty, presenting as it does difficult conditions for proper sanitary treatment.

MATT MCCARTY, Albany, N. Y.

Pressure from Air Tank.

THE following system has been found entirely satisfactory by me. Assuming that the boat contains an air pump, tank and whistle, install the following plant: Place a water tank wherever most convenient. Have two connections on the top and one at the bottom of this tank. From one top connection run a pipe, one inch in diameter, from tank to deck plate, with a valve A (see plan) inserted at some convenient place between deck and tank.

Run a one-half inch pipe from connection at bottom of tank to all fixtures which you wish to supply. Have a union at the lowest point in this run so that you may disconnect to drain all pipes, faucets and tank, thus preventing freezing when hauled out for the winter. When system is drained for this purpose all faucets and valves should be temporarily open.

Near gauge in air pipe which goes to whistle, insert a tee (#1). At this tee put in valve C. From valve C run a three-eighths or one-half inch pipe to tee (#2) above tank. On top of this tee connect valve B.

To fill water tank valve B should be opened to allow for escape of air, valve A opened and deck plate removed. When tank is full valves A, B and C should be closed tight, and deck plate replaced.

In order to put water in system under pressure, first see that there is pressure in air tank, open valve C and allow to remain open until there is sufficient pressure in water tank, then close valve C. When pressure in water tank gets low it may be raised by opening valve C, always being certain that there is sufficient pressure in air tank. Self-closing faucets will give good results in the saving of both water and air.

The ordinary common kitchen range boiler of thirty or forty gallons makes a very good tank and can be placed under cockpit seat, floor, deck or wherever it will be out of the way. These boilers may be had to stand any pressure up to two hundred pounds. All valves should be easily accessible.

ANNABLE SMITH, Boston, Mass.

Tides and Tidal Waters.

Some Pointers in Regard to the Action of Tides in Relation to River Currents, Winds, etc.
The Importance of an Understanding of Them to the Amateur Motor Boat Skipper.

THE PRIZE CONTEST—Answers to the Third Question in the August Issue.

Government Information Valuable.

The Prize Winning Answer.

A STUDY of the effects of tides and tidal currents is a most interesting one and brings out some very instructive and valuable points that are of much service to the motor boat captain.

Much time and study is necessary to gain a thorough knowledge of the subject as so much depends upon local conditions and for one who does not care to go into the subject to such an extent probably the most satisfactory way to get the desired information is from the Department of Commerce and Labor at Washington. This department is constantly taking data at all principal ports on all phases of the tidal question and are most willing to give this, gratis, to anyone applying for same.

For those who desire to make a study for themselves it is simply a case of observation of the conditions that exist at each particular place. Rules, in general, are dangerous to follow without considerable caution. However, there are a few that there is little variation from, which one may assume as safe.

In most rivers and sounds the tidal current turns in-shore and in the shallow places from a half to two hours before it does in the channel. The direction of the tidal current does not change at the same time that it is high or low tide. The variation is less in open sea but in confined bodies of water the current may continue to run flood for two hours after high tide and to run ebb for three hours after low water.

The strength of the tidal current also varies considerably during ebb and flood, being at its strength, in general, soon after the first of the flood and toward the last of the ebb. As for the actual velocity it is very deceptive—a tidal current of over three knots is the exception and hardly ever occurs except in narrow passages.

The amount of rise and fall can be explained by the geographical formation, it being greatest in bodies that are "pockets." It may vary considerably in the same body, for instance, in the Hudson River the rise is about four feet at its mouth; this gradually diminishes for the first 60 miles north, then increases for the next 60 miles, and from this point diminishes again to the head of navigation. The amount of rise and fall may be affected by a

strong wind and is also greatest at the time the moon is either new or full.

One common idea of current effect is that if a boat runs a certain distance against the current and then returns with it, that her speed for the trip will be the same as it would have been had there been no current. This is very much in error, for, as a matter of fact, her speed will be considerably slower than if there had been no current. The average speed for the trip may be found from the following equation: Average speed with and against tide (speed in still water)²—(speed of current)²

—————
(speed in still water)

all being expressed in miles per hour. For example, a boat that was capable of making 8 miles per hour in still water will be able to average only 6.875 miles per hour with and against a 3-mile current.

C. F. CHAPMAN, New York City.

Observation Best Guide.

THIS question is easily answered by a broad and sweeping generality: "Learn everything you can regarding tides, their relation to river currents, winds, etc.," and rest assured that every point learned will make you just so much more competent as a motor boat skipper, and will add just so much to your enjoyment.

To suggest specific lines of study is also easy; easier than to tell how best to pursue them.

Taking New York waters as an example (the question being propounded by a New York boatman), we must include the North and East Rivers, the Sound for say twenty miles east; the Upper and Lower Bays, Gravesend Bay, Jamaica Bay, Raritan and Newark Bays, Kill von Kull and Arthur Kill, the Shrewsbury and the outside waters to the fishing grounds.

First, then, and most important, is the time of high and low water times. Government tide tables give high and low water times at certain points, such as Sandy Hook and Governor's Island. Note and tabulate the difference in time of high water at such other points as you are particularly interested in and memorize a general idea of these differences as to each of the waters mentioned. Speed of tide flow should be noted in all important channels.

Tide runs flood about five hours and ebb about seven, so from time of high water all necessary calculations may be made.

Ebb and flood tide do not commence to run at exactly the time of high and low water respectively. Tabulate or memorize the average interval at typical points; also note variations caused by continued easterly weather in accelerating and of westerly weather in retarding tidal flow both in time and volume, from normal.

Study, also, the extra "moon tides" or you may haul out on one of them.

How best to take advantage of favoring tides and how to suffer least from unfavorable tides, especially in narrow waters, is important. Tidal effect on wave action is also important, especially to the skipper of an open boat. In this connection, also, there is the driftwood, seaweed, etc., study, where to expect it at different stages of the tide.

Now, how to study all these things. Tide tables are published by the Government and available to everyone. Local conditions and variations must be investigated at first hand, preferably on the spot. The fishermen are able instructors, if they will serve. These subjects should be more discussed at the clubs and by boatmen. But, after all is said, experience must be rated the best instructor in this, as in many other fields.

There was a splendid article on Hudson River tides in the August number of MoToR Boating, with plottings of tide curves, which will repay a most careful study.

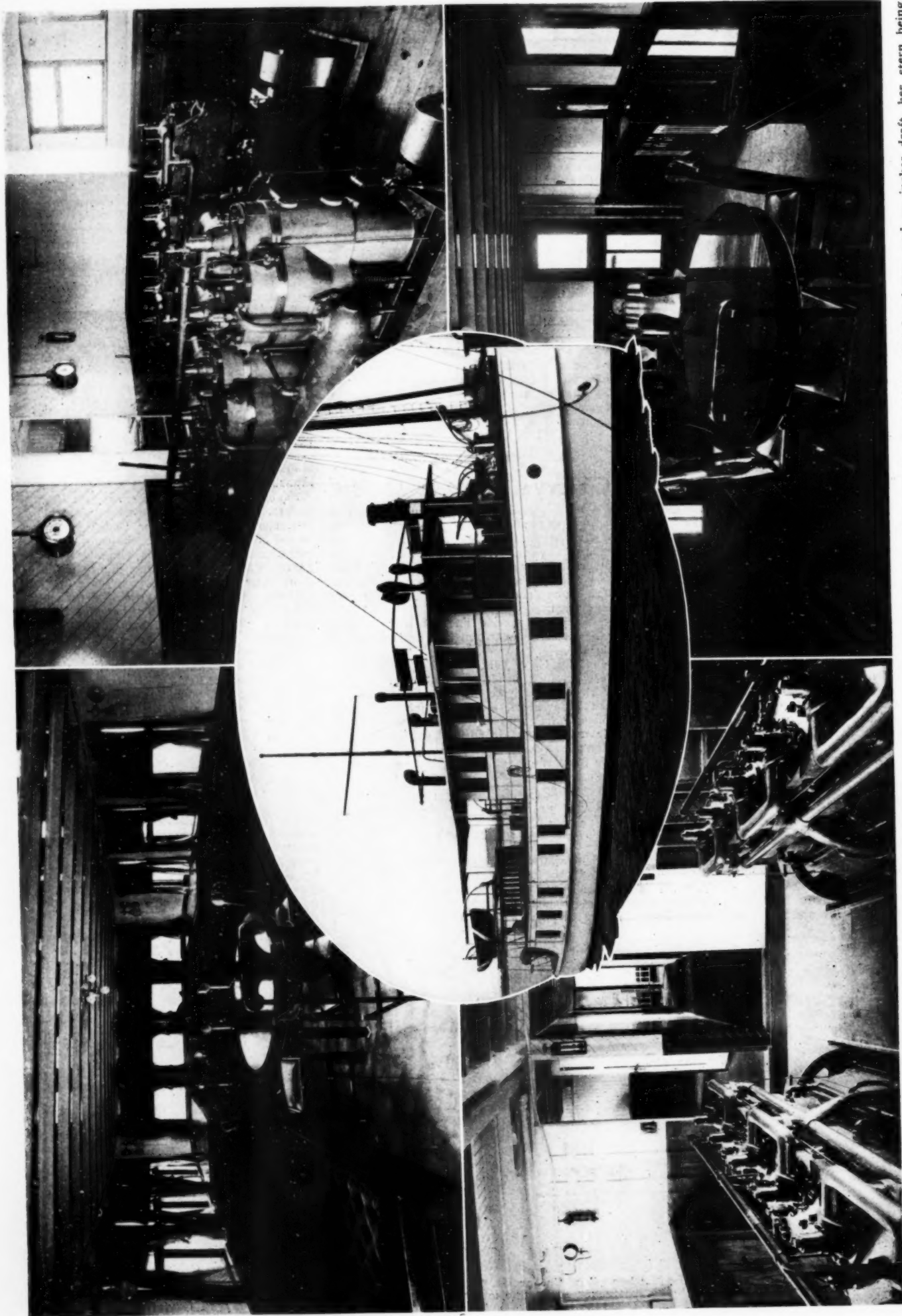
It is a big and most interesting subject and one can never learn it all. After 25 years' personal experience I know its fascination; I have learned something as to tidal conditions in all the waters named above; I am still studying, still interested, but still far from knowing all I wish, though I learn something every trip.

It is a popular fallacy that real amateur seamanship and the need for it ended with the passing of sails and the installation of the motor. As a fact the demands on the devotees of motor boating call for more of seamanship because of the motor, because far longer trips are commonly made and tidal study is more important because these trips are capable of being made on schedule time.

HUNTINGTON, New York City.



Ardea, a 60-footer recently built by the Matthews Boat Co. for Mr. Geo. A. Anthony, of Washington, D. C., and Mr. N. H. Easton, of Pawtucket, R. I. She is in commission at Newport.



Photographs by Pearce.
Ladona, the latest of the Mathis houseboats, built for Mr. E. J. Greacen, of the N. Y. and Larchmont Yacht Clubs. She is 77 feet over all, by 18½ feet beam, and 30 inches draft, her stern being tunneled. She is an able boat, and her two 60-h.p. Twentieth Century motors drive her at the remarkably good cruising speed of 12 miles per hour.

Winona--A Tug With a Record.

What One of the Pacific Coast's Successful Gasoline Tow Boats Proves After Two Years' Service. The Economy and All-round Desirability of Such Boats Over Their Steam Driven Predecessors.

By H. Cole Estep.

ON the Pacific Coast, the working motor boat has probably been brought to a higher state of perfection than in any other part of the country. Its development, however, has been largely along lines in which from the nature of things there could be little or no competition by steam driven craft. But after making such a splendid success in fields of its own, it was only natural that the power boat should be tried out in direct competition with small steamboats in work for which the latter had proved peculiarly suitable.

So within the last two or three years a number of heavy power boats have been built on Puget Sound, and at other points on the Pacific Coast, for towing logs and similar work heretofore handled exclusively by small steam tugs.

One of the most successful of these gasoline tugs is Winona, of Ballard, Wash., owned by the Balcom Mill Co. She has now been in service a sufficient length of time clearly to demonstrate that within certain limits at least, the power boat is more economical in the towing business than the steam tug.

In appearance Winona is much the same as an ordinary small steam tug. Her hull, which sits low in the water, is heavily constructed and strongly braced. A cabin is built on the main deck to protect the machinery, with a pilot-house forward. The dummy smokestack carries an efficient exhaust muffler. The hull

is 60 feet in length over all, 12 feet broad and six feet deep. Power is furnished by a 3-cylinder, 75-horsepower engine, built by the Automatic Machine Co., Bridgeport, Conn. The engine cylinders are 10 inches in diameter by 14 inches stroke. Instead of gasoline, engine distillate costing about 9 cents per gallon delivered on board at Seattle, is used for fuel. An independent 5-horsepower gasoline engine direct connected to a 3-kilowatt generator furnishes electric current for illuminating the boat and operating the searchlight. Winona's speed is 10 miles an hour light and 4 miles an hour when towing 10 sections, about 400,000 board feet of saw logs. She is fully as powerful as a steam tug of equal tonnage.

The reliability of a gasoline tug is questioned more frequently than its power or economy, but Winona has thoroughly demonstrated that a well built power boat will give even more continuous service than a steam tug. She has no boilers to be washed, no grates to renew or high pressure pipe joints to be repacked. For two years, almost continuously day and night, Winona has operated with scarcely a halt. Few steam boats of any description have such a record. Her first cost was about \$10,000 and repairs have been practically nothing.

On a basis of 350 days' operation per year, the average annual operating expenses of Winona are as follows, assuming 20 hours' actual running per day:

Six gallons distillate per hour; 7,000 hours at 9 cents a gallon.....	\$3,780
Annual wages of captain.....	1,200
Annual wages of mate.....	720
Annual wages of cook.....	600
Annual wages of chief engineer.....	1,080
Annual wages of assistant engineer.....	960
Food for 5 men, 350 days at 40 cents per day each.....	700

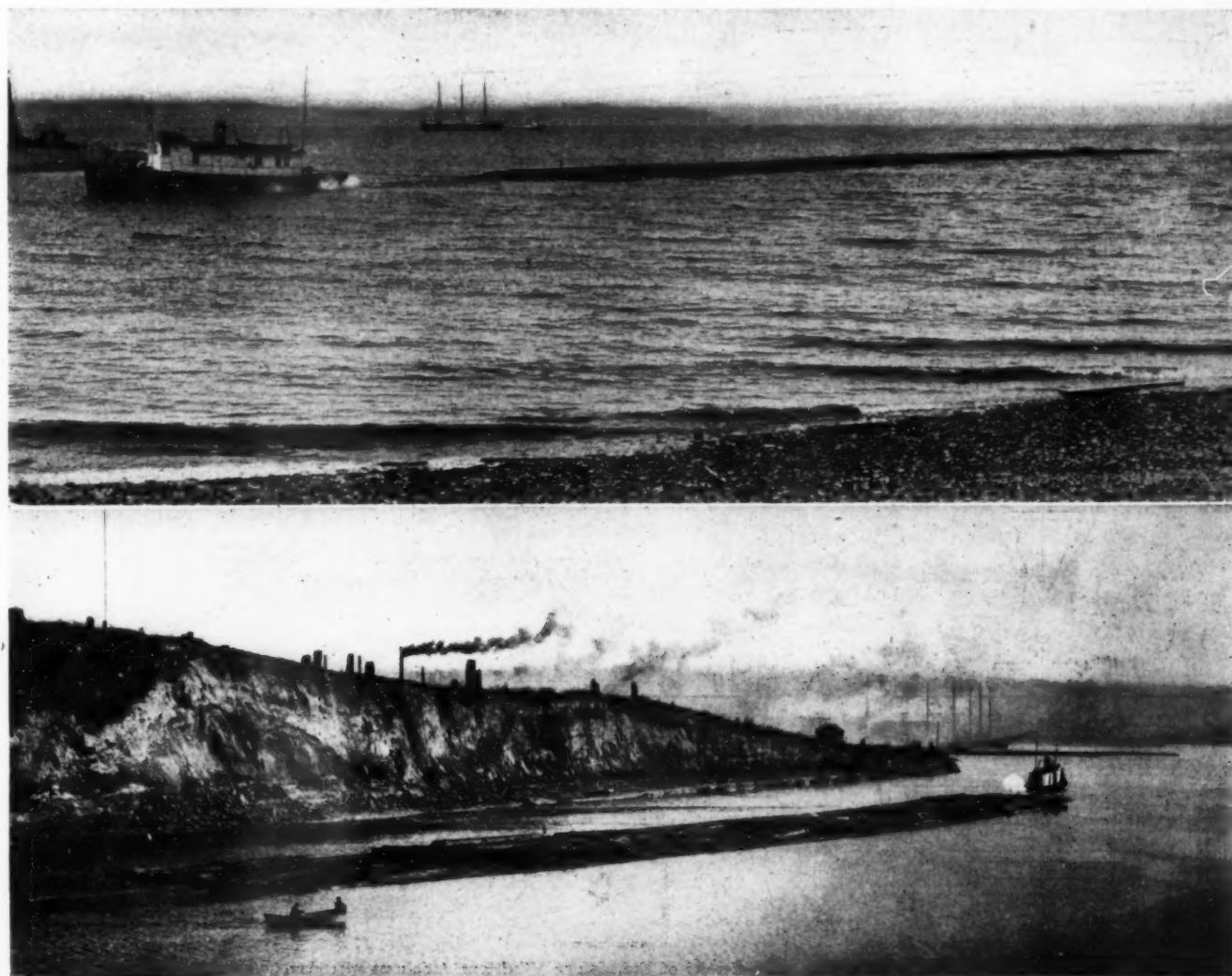
Total annual operating expenses..... \$9,040

For the purpose of comparison the following figures are given of the annual operating expenses of a steam tug, of very nearly the same power and tonnage as Winona. The steam tug works under the same conditions.

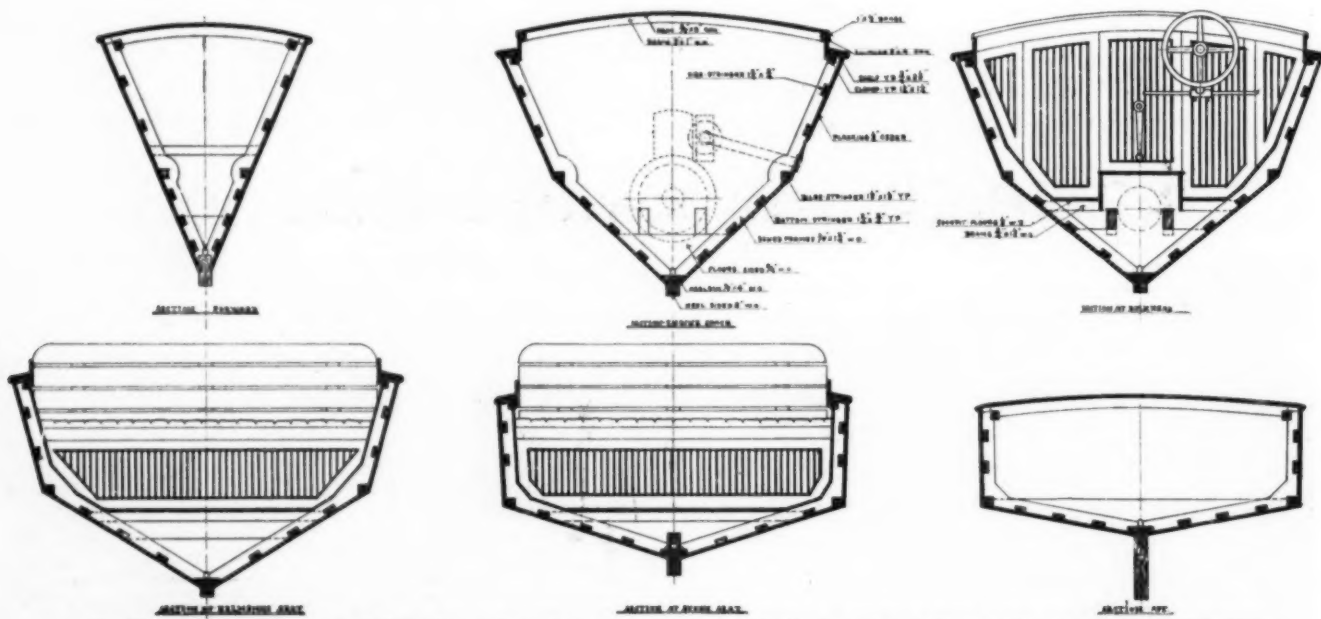
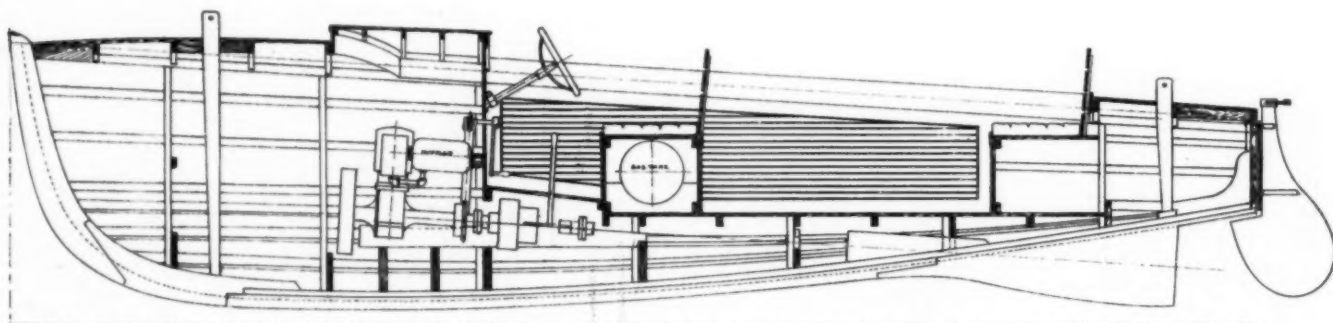
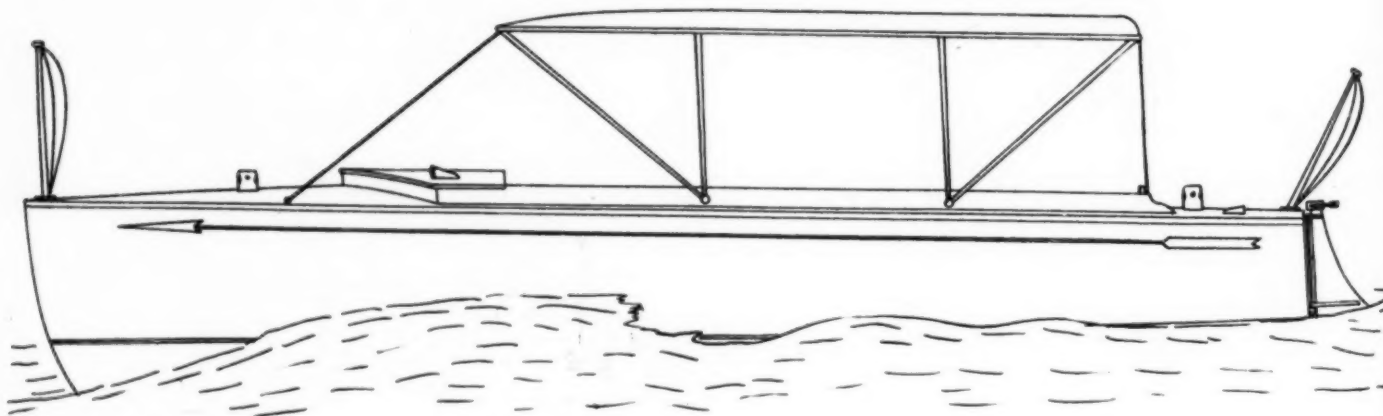
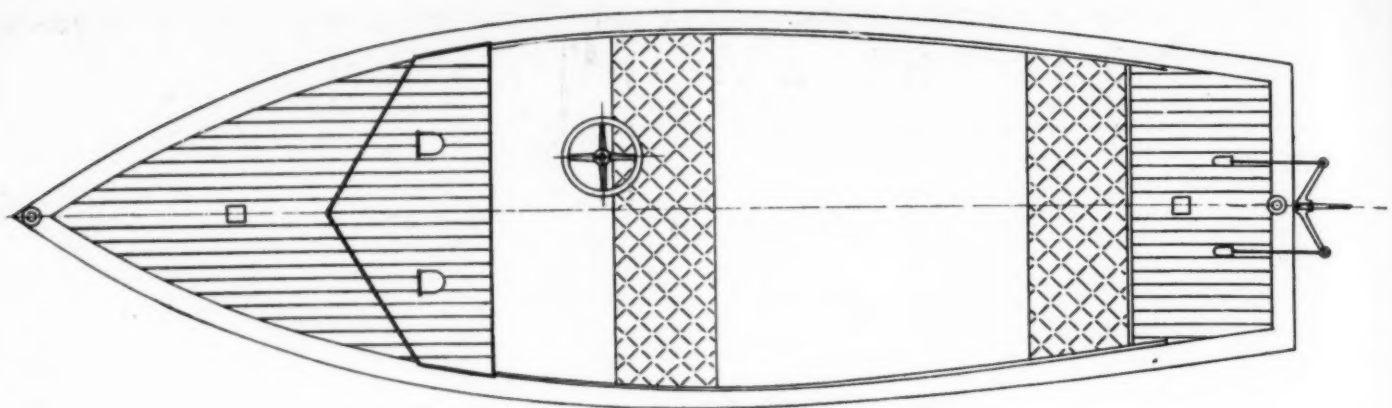
Three tons of coal per day at \$3.00 per ton, 350 days.....	\$3,150
Sixty tons coal for banked fires.....	180
Annual wages of captain.....	1,200
Annual wages of mate.....	720
Annual wages of chief engineer.....	1,000
Annual wages of assistant engineer.....	900
Annual wages of two firemen.....	1,200
Annual wages of deckhands.....	480
Annual wages of cook.....	600
Food for 8 men, 350 days at 40 cents per day each.....	1,200

Total annual operating expenses..... \$10,550

(Continued on page 60.)



Winona makes a speed of four miles an hour with 400,000 board feet of logs in tow.



Profile, deck plan, accommodation plan and sections of the 16-foot V-bottom runabout described upon the following page.

New Motor Boat Designs.

THE illustrations upon the preceding page show a very fast little runabout of the "V-bottom" type from the boards of the Standard Marine Construction Company, Bourse Building, Philadelphia, Pa., which is now under construction at Sheppard's yard at Essington, Pa., for J. S. Buzby, of Moorestown, N. J.

The plans show a boat of moderately hogged sheer with the engine place forward under a removable hood. The motor is controlled and reversed from the helmsman's seat and is started from the same position through the use of a rear-starting device. The steering wheel is of the automobile type, with spark and throttle controls mounted upon it and the wheel is placed at a convenient angle, with the

V-Bottom Runabout.

tiller cables running aft of the bulkhead where they are accessible.

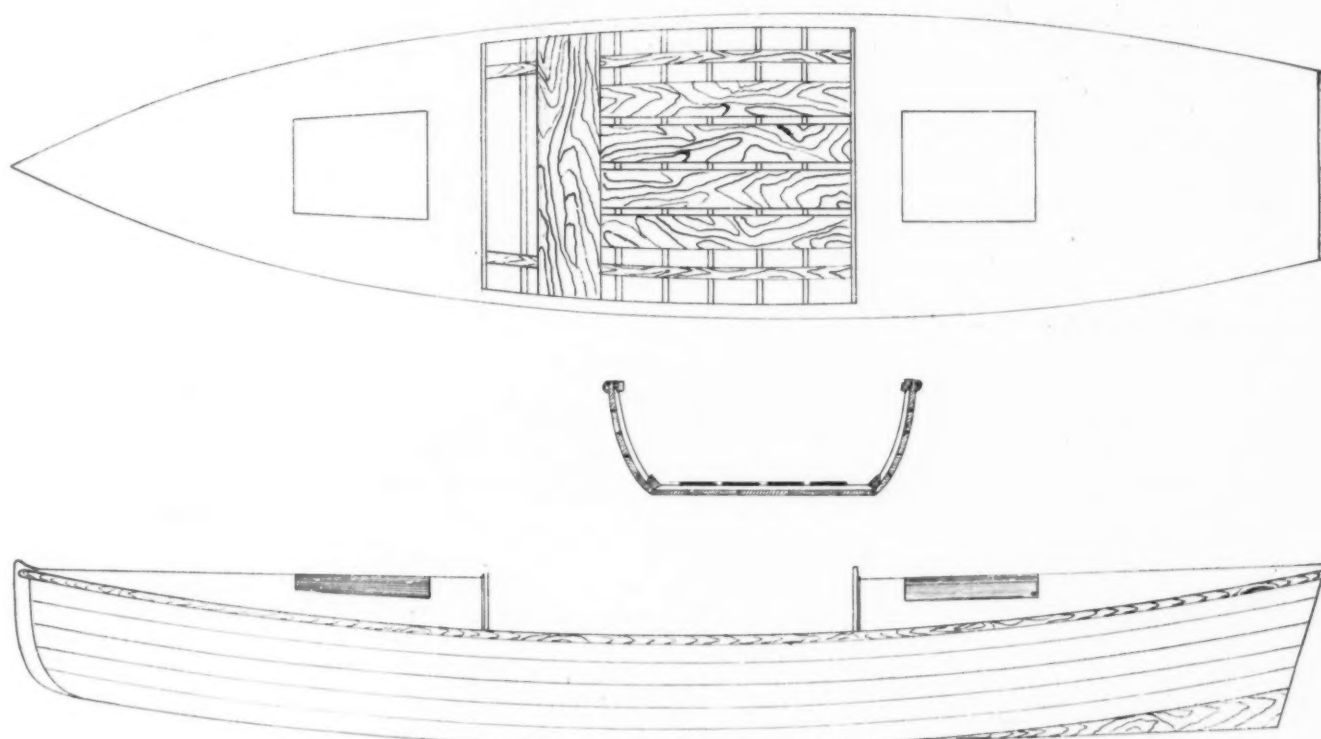
Under the helmsman's seat is fitted a 10-gallon copper gasoline tank, set in a pan draining outboard. At the after end of the cockpit is a large seat, under which is plenty of locker space, and all the cockpit is available, since tool lockers and shelves in the engine compartment forward of the bulkhead provide an abundance of storage for tools and motor accessories. The boat is substantially constructed with oak keel, keelson and engine-bed. The frames are sawed from one piece of hackmatack; knees, stringers and clamps are of

yellow pine; planking is of cedar, and the decks, coaming and interior work are finished in mahogany. The deck

fittings are of polished bronze, and the rudder is of mahogany hung outboard.

The dead wood is well cut away so that the boat will have as short a turning radius as possible. The hull is finished black above the water-line and dark green below, with a white boot-top between. An auto-top finishes the equipment. The dimensions are as follows: Length, 16 ft.; beam, 5 ft.; draft, 1 ft. 3 in.

The boat is remarkably handsome and serviceable and should prove very popular, since she has a comparatively large carrying capacity. It will sell complete for \$300.



The type of boat built for making the journey through the Grand Canyon of the Colorado River.

Through the Grand Canyon.

WE are able to show upon this page the type of boat of which three have been built by the Racine Boat Company, of Racine, Wis., for three men who have planned to make the trip of 1,400 miles through the dangerous waterway from the headwaters of the Green River in Wyoming to Needles, Cal.

The three men are E. C. Kolb, of Bright Angel Trail, Grand Canyon, Arizona; E. L. Kolb, his brother, and Reese Griffith, of Fredonia, Arizona; and it is their intention to take motion pictures of the entire trip. The journey is a very dangerous one and not more than two or three persons, since Major Powell first made the trip down the Colorado in 1869, have accomplished it successfully. One of the Kolb brothers has discovered one of the most beautiful waterfalls of the canyon, which has

never appeared upon the Government maps, although it is over 800 feet high.

It is expected that the trip will occupy about three months and each man will have a separate boat, a steel one having been built for E. C. Kolb, who will attempt to make the passages ahead of the others and photograph the boats as they pass through.

As can be seen from the drawings, the boats are turned up at both ends and the use of a permanent keel has been avoided by employing and adjustable snag keel for use in smooth water. The route will take them through the Grand Canyon for a distance of 217 miles, 90 miles of which will be through the granite gorge in which the walls are perpendicular. There are 500 rapids in the canyon.

One of the chief dangers of the trip, it is

said, is due to the fact that the water of the Colorado River is so full of sand that a man cannot swim in it for any length of time. The boats used are 16 feet 4 inches in length, with a beam of 48 inches, and are of the double-end type. The entire frame is of oak with planking of white cedar, copper riveted to the frames. The boats are decked over at each end, giving space below for carrying the moving picture apparatus and supplies. These compartments are arranged to be watertight and have air chambers forward and aft. There is a small cockpit amidships which can be covered with canvas, allowing only the head and shoulders of the man to be exposed. The boats are also fitted with two pairs of 8-foot ash oars with special tips, which will doubtless be used mainly for steering in the swift current.

Gladiola, a Florida Cruiser.

GLADIOLA is a 67-foot craft with a beam of 14 feet and a draft of 3 feet, designed by Whittelsey & Whittelsey, naval architects of New York, for Mr. O. S. Johnson, of Scranton, Pa. This yacht is now being completed at the Hudson Yacht & Boat Co., of Nyack, N. Y. She is especially designed for cruising in Florida waters during the winter and upon Long Island Sound and the St. Lawrence during the summer months. She is a combination of the bridge deck and raised deck type, having a low pilot house forward with trunk cabin aft. One of the principal features of her cabin arrangement lies in the fact that one can see out of any of the windows from a sitting position.

Instead of a flushed deck aft, she will have a cockpit which is very roomy and extends the full width of the vessel. This cockpit is self-bailing and contains a comfortable seat in the stern. The interior quarters consist of the engine room and crew's quarters forward, containing sleeping berths and toilet for the crew. Next aft is located the galley which measures five feet fore and aft by the full width of the vessel. The ice-boxes hold about 700 pounds of ice and are built in on the starboard side, being filled by a trap through the deck.

The galley contains a coal stove with water back and a hot-water boiler supplying hot water to all the fixtures. A passageway leads

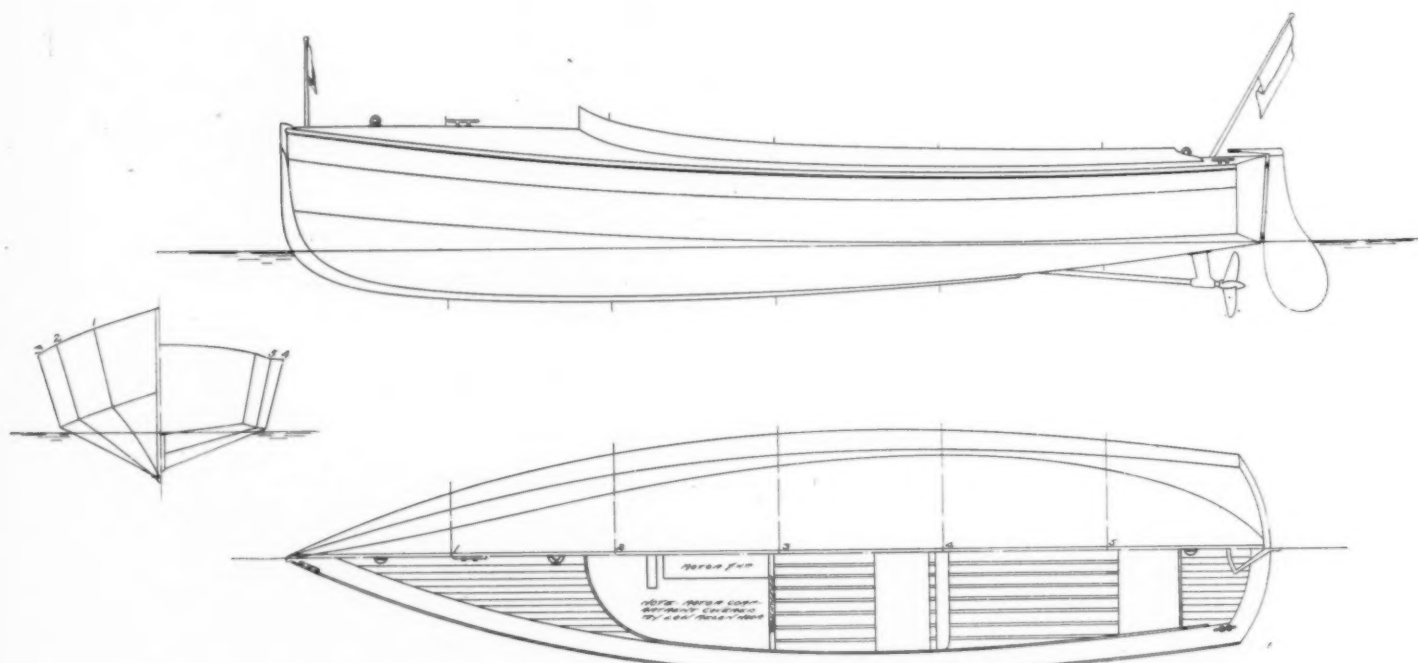
to the pilot house, the floor of which is sunken partially over the engine space and does not obstruct the head room below decks. The main saloon is next aft from the galley extending the full width of the vessel, and contains a large buffet, desk, extension divan berth and Pullman berth. The main companionway leads from the deck into this saloon.

Aft of the saloon is located an alcove stateroom to starboard and a large bath with tub to port. The bath is finished in metal to the ceilings and this room connects with both the owner's stateroom and the alcove stateroom by swing doors. The owner's stateroom is especially large and contains an extension divan berth to port and a Pullman berth to starboard. Beneath the cabin floor are located four large water tanks with a capacity of about 600 gallons. These tanks will serve for water ballast in case the vessel is required to make off-shore trips. An auxiliary water tank is located in the stack and the water is pumped from the main tank by a pump driven by the propelling machinery, and affords gravity flow to all the fixtures.

The construction of this boat is extremely heavy throughout; the framing is spaced 10 inches on centers, excepting through the engine space, which is doubled to 5 inches on centers. There are three watertight double bulkheads and two heavy strengthening bulk-

heads. The decks are of white pine with mahogany plank sheers. The gasoline tanks are located both forward and aft. Special care has been taken in the installation of these tanks in order to make them absolutely safe in every respect. The compartment in which the tanks are located is separated by watertight bulkheads from the cabin quarters and is sheathed in heavy copper. The tanks are built of heavy copper with intercostal bulkhead. There are two supply lines from each tank which lead through tubes, which in turn are flanged to the outside of the hull and to the inside of the tank compartment, allowing the sea water to flow in around the tanks at all times. The supply lines are led along the outside of the hull to about one foot forward of the engine flywheels and there enter the hull and assemble in a common manifold with valves for each separate supply line. From the manifold the piping leads direct to each of the engines. This method of installation is highly approved by the underwriters, and is absolutely fool-proof.

The machinery consists of two 4-cylinder $6\frac{1}{2} \times 8$ inch Sterling engines, developing 40 h.p. each. The boat is lighted throughout with electricity and the plant consists of $1\frac{1}{2}$ k.w. generator driven by a belt from one of the engines. The batteries are of the Edison type of 80 ampere hour capacity.



An 18-foot V-bottom yacht tender designed by William H. Hand, which is easily controlled and capable of a 10-knot speed.

A V-Bottom Motor Tender.

FROM the plans shown above, from the office of William H. Hand, Jr., of New Bedford, Mass., an 18-foot V-bottom motor tender was built at New Bedford recently, and the boat has proved to be such a satisfactory little craft that we are glad to show her designs.

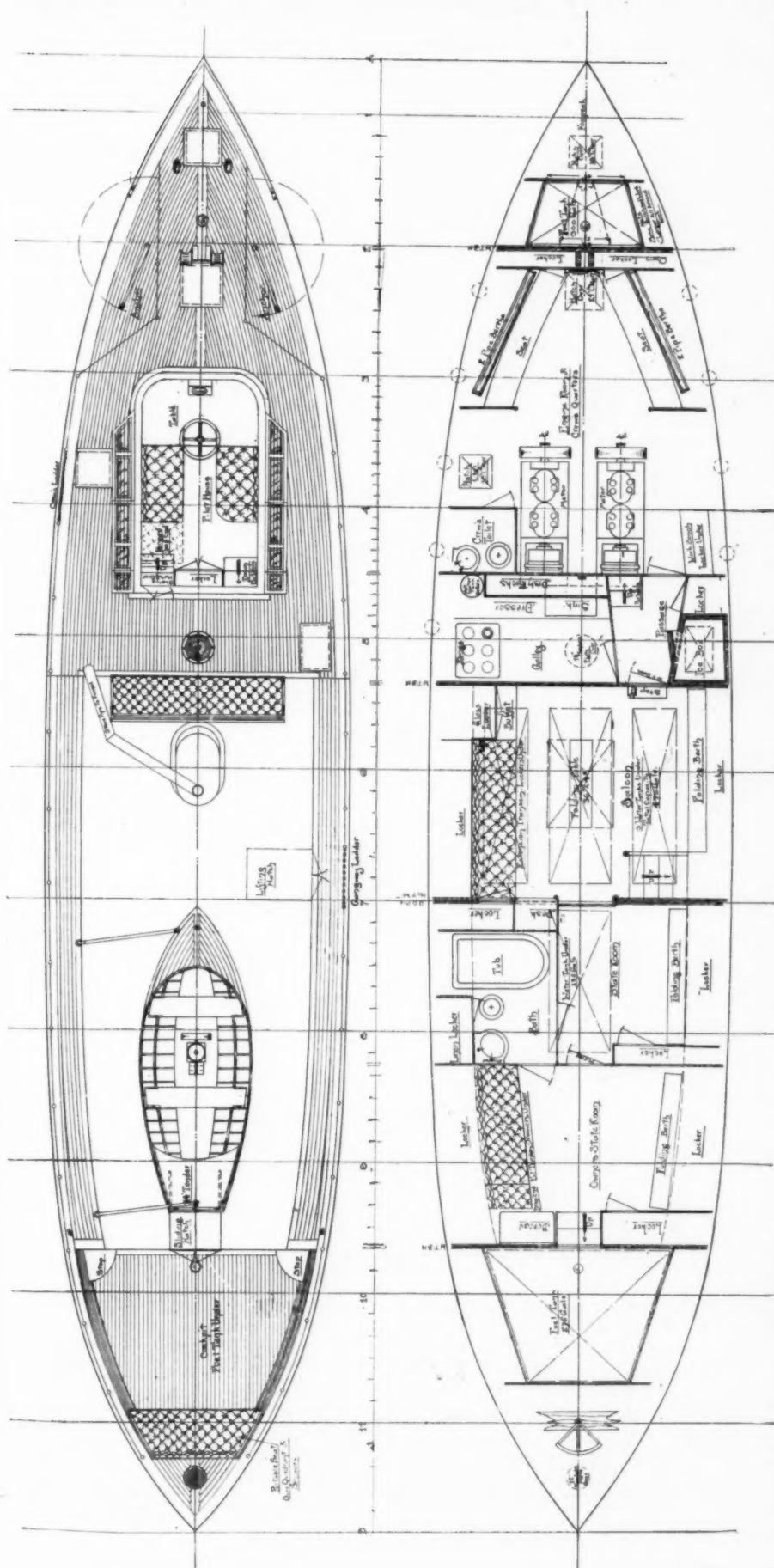
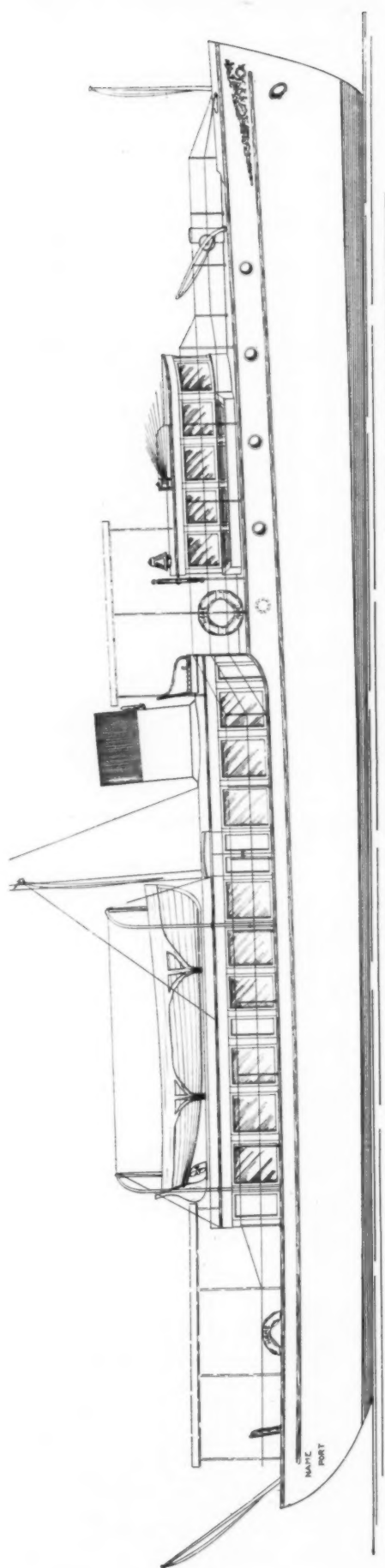
With a 7 h.p. Erd motor installed the boat proved herself capable of a speed of 10 knots, and she was very easily handled with the motor placed well forward in a separate compartment and arranged with automobile controls.

The boat is very handsomely finished in teak, and for a boat of her size with small engine equipment she showed very good speed, and for the purpose for which she was intended has proved almost an ideal craft. A photograph on another page of this issue shows the same craft upon the davits of the yacht with which she was used.

The dimensions are: Length over all, 18 feet; beam, 4 feet 6 inches; draft of hull, 8 inches. The seating arrangement provides comfortable accommodation for four persons, all facing forward.

The motor is arranged to be covered by a melon hood which can easily be lowered when it becomes necessary to give access to the motor. The craft is comparatively light, although her construction is substantial, but for her usefulness it is desirable to be easily handled upon the davits.

The rudder is hung outboard and can be unshipped when desired. This gives the boat a great range of service in shallow waters where she will have occasion to be used in making landings, as her total draft without the rudder is but a few inches.



The 67-foot cruiser by Whittelsey & Whittelsey is an all-year boat, and will be used in Florida during the winter and upon the Sound and the St. Lawrence during the summer.

A 38-Foot Self-Bailing Craft.

A NOVEL type of boat is shown below in the design by C. I. Nielsen, of Gravesend Beach, Brooklyn, N. Y. This is a 38-foot self-righting, self-bailing craft, with an extreme beam of 7 feet 6 inches. At a point 5 feet aft of the stem is a watertight bulkhead and in the forward compartment is located a 50-gallon gasoline tank of heavy copper fitted with splash plates. The piping from this tank runs outside of the hull along the keel, and the tank is at all times floated to the waterline, so that in case of accident or leak no fuel can reach the interior of the boat.

Six feet aft of the watertight bulkhead the space will be occupied by a covered self-bailing and practically watertight storage compartment for carrying provisions, etc. Just aft of this compartment a place is provided for the mast. The steering gear and engine controls are also placed here and there is also room for a locker seat on each side, if desired.

The bailing pipes are provided with caps so that a greater load than the self-bailing capacity, which is

about 9,000 pounds, can be carried, making the extreme safe load about 10 tons. From the bulkhead aft of the storage room to the watertight bulkhead forward of the engine room, a distance of 14 feet, is occupied by the self-bailing cockpit. The engine room is nearly 13 feet long and is placed between watertight bulkheads.

The after portion of the craft, which is used as an engine room, is covered and is lighted from three port lights upon a side and ventilated by an open hatch as well.

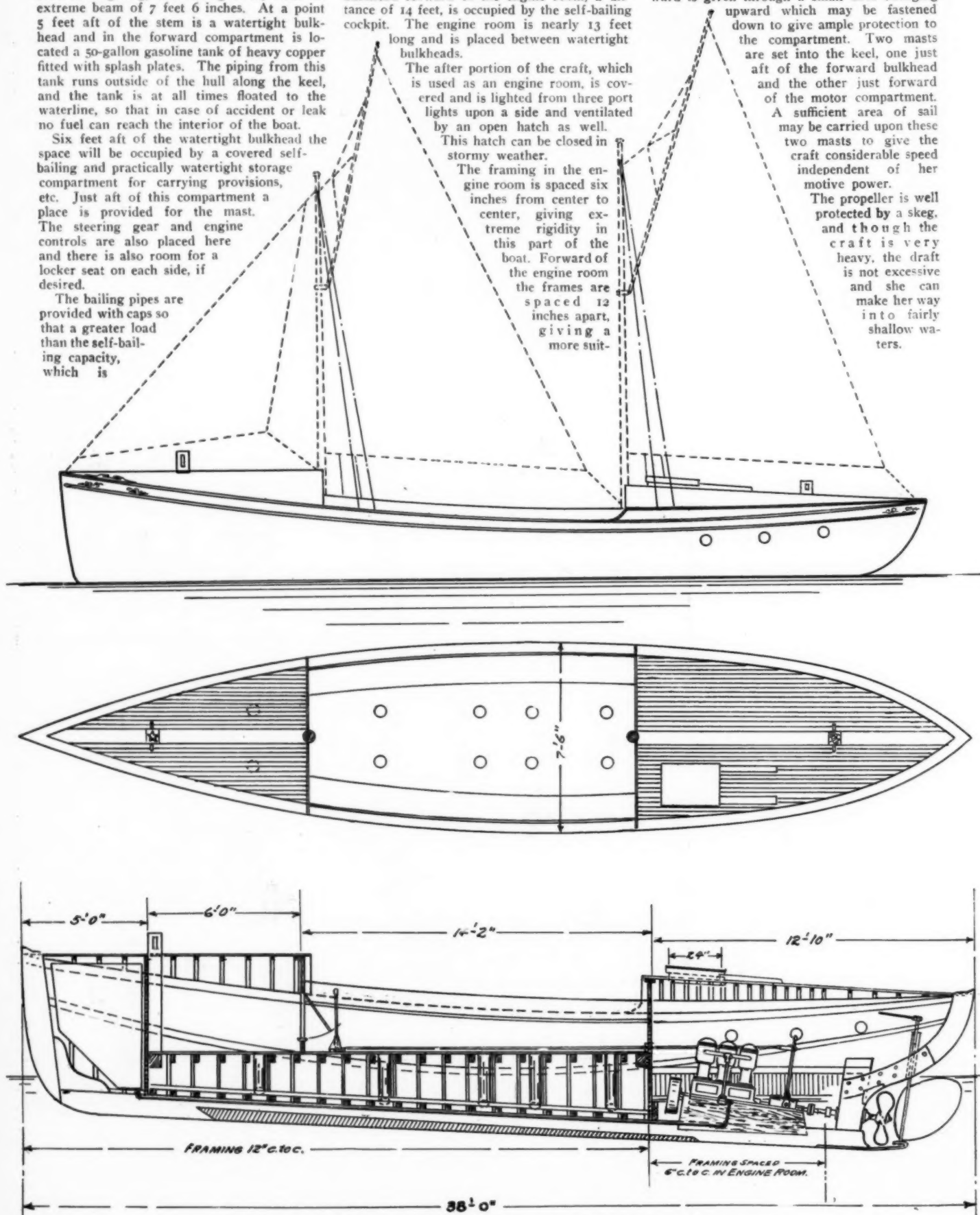
This hatch can be closed in stormy weather.

The framing in the engine room is spaced six inches from center to center, giving extreme rigidity in this part of the boat. Forward of the engine room the frames are spaced 12 inches apart, giving a more suit-

able construction for the part of the craft that is not subjected to vibration.

Access to the watertight compartment forward is given through a small door swinging upward which may be fastened down to give ample protection to the compartment. Two masts are set into the keel, one just aft of the forward bulkhead and the other just forward of the motor compartment. A sufficient area of sail may be carried upon these two masts to give the craft considerable speed independent of her motive power.

The propeller is well protected by a skeg, and though the craft is very heavy, the draft is not excessive and she can make her way into fairly shallow waters.



This 38-foot, self-righting, self-bailing boat has a safe load capacity of almost 10 tons.

A 42-Footer for the West Coast.

THE plans shown below are from the boards of W. E. Anderson, of Albuquerque, New Mexico, and are the details of a 42-foot boat designed for a yachtsman upon the western coast, although it is likely that the craft may eventually find her way to the Great Lakes.

As the plans show, she is of the modified raised deck type with a pilot house forward and a low trunk cabin aft. The freeboard is ample, with a good draft, as it will not be necessary to use her in shallow waters, and her lines show plenty of deadrise throughout. Her bow sections have considerable flare and flared make her an excellent sea boat.

The raised deck forward makes the craft capable of withstanding heavy seas and the cockpit section aft proves a dry spot even in very rough weather, protected as it is by the pilot house and trunk cabin. An awning covers the

cockpit as well as the trunk cabin and this is so arranged that it may be removed in pleasant weather.

The interior arrangement is laid out in a very simple manner, each compartment being of ample size and allowing plenty of room to move about. A stateroom is forward containing two stationary berths with drawers and lockers under them, and next aft to this compartment is the engine room. The motor is placed sufficiently well forward to overcome any tendency to drag at the stern, and the motor room is very conveniently arranged. The motive power is furnished by a 30-45 h.p. motor. On the port side of the engine room is a stairway leading to the pilot house.

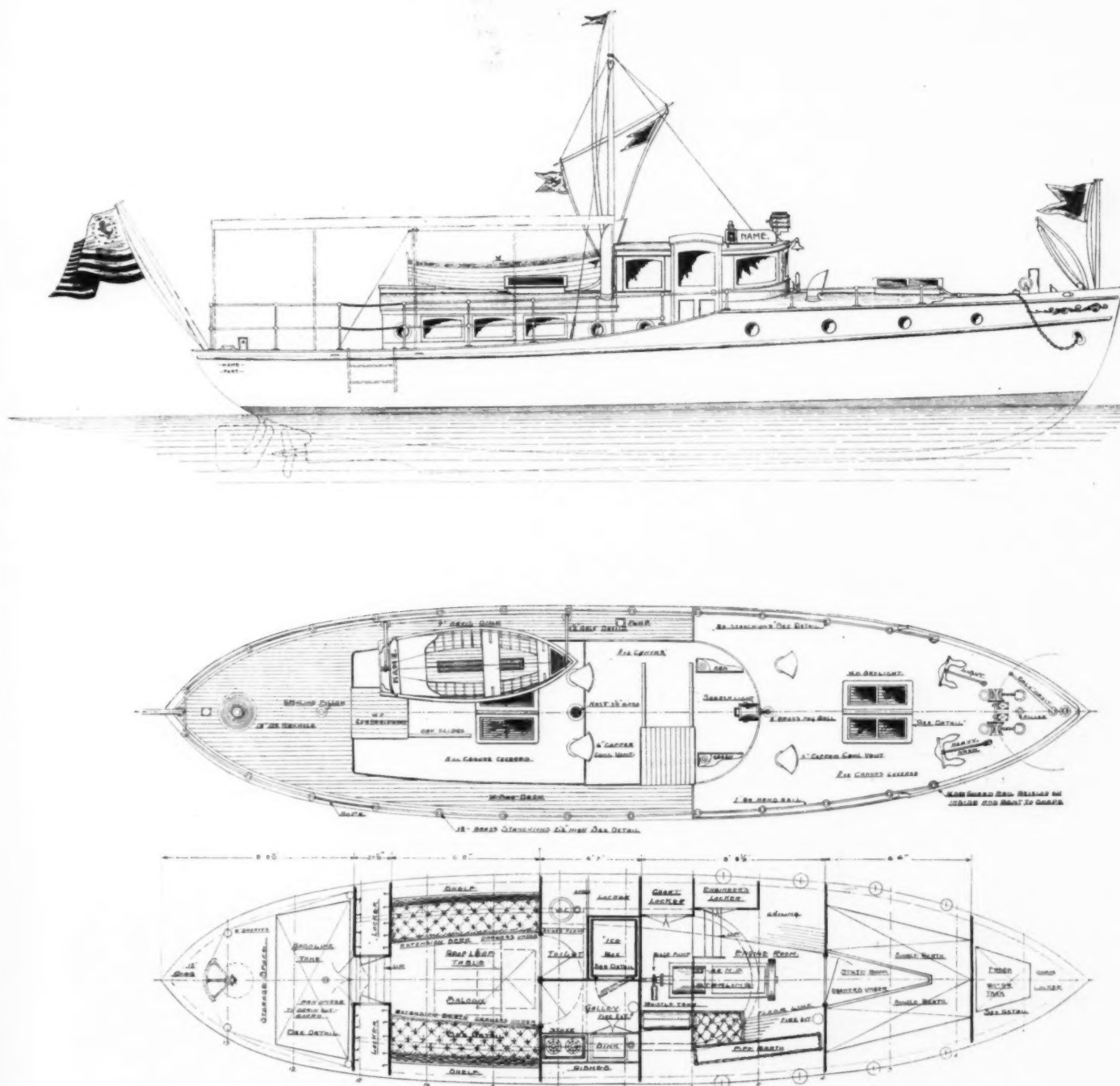
The boat is controlled entirely from the pilot house and can be operated by one man if necessary. Steps lead to the deck from the starboard side of the pilot house.

Next aft from the engine room is the galley upon the starboard side of the vessel with an ice-box upon the port side. Aft of this is a toilet upon the port side, containing a closet and lockers upon a raised floor.

Aft of the galley is the saloon, containing extension berths with drawers under and two lockers of ample size at the after end. There is also in this compartment a mahogany drop-leaf table. The interior finish of the saloon is white enamel and mahogany.

The gasoline tank is located in the extreme after portion of the vessel and is fitted with a pan to drain outboard. Storage space is provided aft of this.

On deck the boat is fully equipped with anchors, chain, lights, signal mast and yard. A dinghy is carried upon davits slung over the trunk cabin. The craft will make a speed of from nine to ten miles per hour.



This combination of the raised deck and trunk cabin type makes a serviceable sea boat and is easily handled.

A Hunting Cabin Launch.

THE plans shown below are those of a hunting cabin launch, with a raised deck, designed by C. I. Nielsen, of Gravesend Beach, Brooklyn, N. Y., for Mr. T. J. Kaare, of Brooklyn, who will use her about the Sound and the waters of New York Harbor. The craft is rather heavily constructed, and although she is but 34 feet in length, she has an 8-foot beam and is a very staunch craft.

The outboard profile shows a boat of very good lines, the trunk cabin section being carried well aft, giving somewhat the appearance of speed and yet not interfering with a good cockpit space at the stern. The motor controls are led to the steering wheel at the port side of the cockpit and the boat can be handled easily by one man. The cockpit may be covered by an awning if desired, although the motor is provided with a cover and such a pre-

caution is not necessary unless the comfort of the occupants demands it.

At the after end of the cabin upon the port side is a toilet room, and on the starboard side are steps leading to the cockpit. Locker space is provided next to the steps at the side of the vessel. The main cabin is divided into two large staterooms with Pullman berths and transoms so that the boat may be fitted to furnish sleeping quarters for eight persons if necessary.

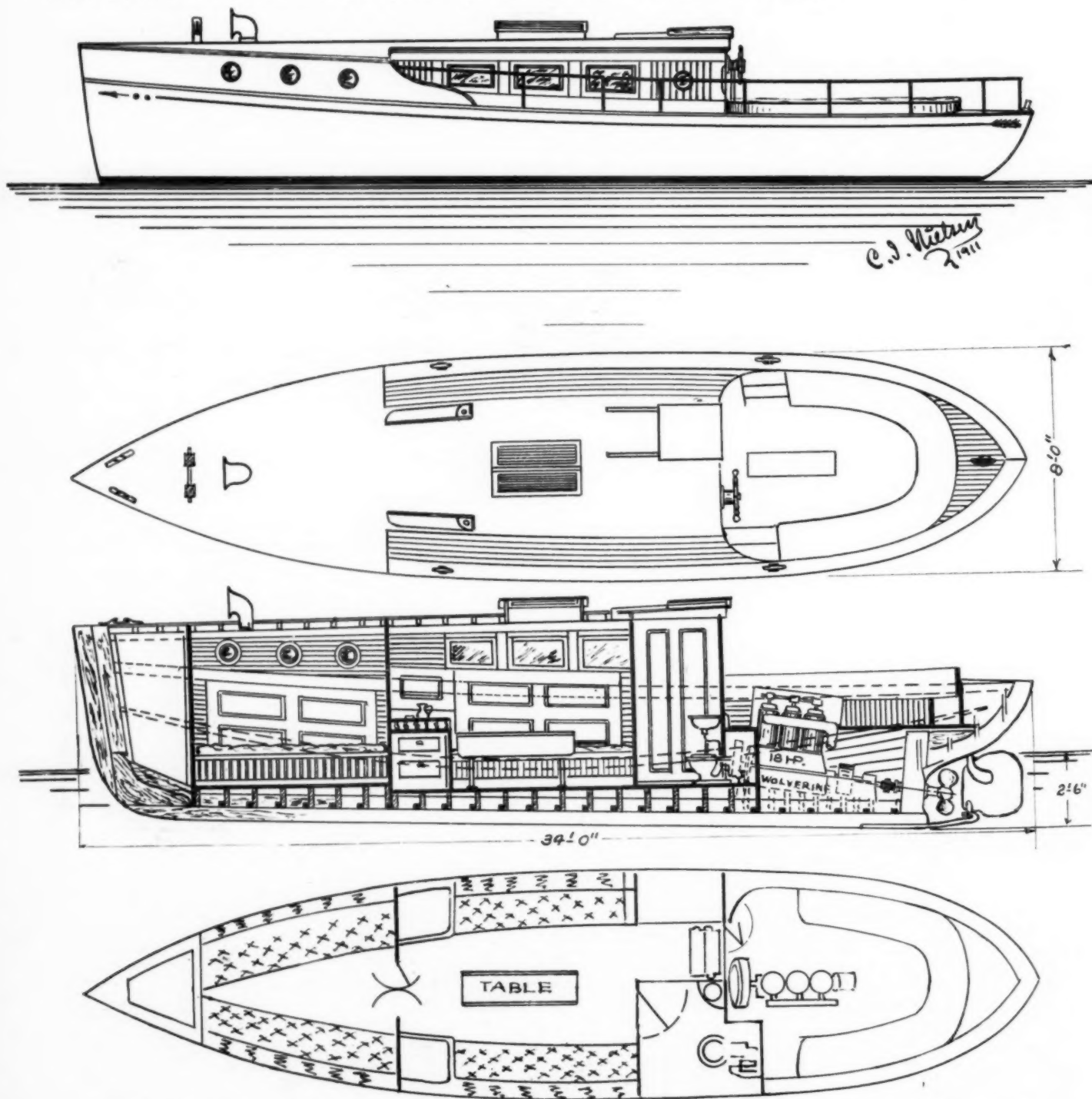
By placing the motor in the cockpit the entire cabin space is left free, and but little cockpit space is occupied by the motor since it is covered in a manner to allow it to serve as a table or a seat when the craft is not under way.

There are three Pullman windows and a porthole upon each side of the trunk cabin

and there are three portholes upon either side of the raised deck section. A table with folding leaves occupies a position in the center of the main saloon and a temporary galley may be easily fitted to the craft if desired. A skylight in the center of the raised deck above the main cabin furnishes additional light and ventilation to this portion of the boat, and ventilation is provided for the forward stateroom by means of a cowl in the deck.

The gasoline tank is located well forward and is reached through a hand-hole in the deck.

The speed of the boat is about 11 miles per hour with an 18 h.p. Wolverine motor. The outside of the craft will be finished in oak and the inside trim will be red Spanish cedar. A hand rail extends around the deck from the raised deck section aft and seats are provided in the cockpit.



The hunting cabin launch designed by Mr. Nielsen is very heavily constructed and is particularly well arranged below decks.

The Building of Idylease.

How a Reader of MoToR BoATinG Constructed a 29-foot Motor Boat Practically Single-Handed.
A Comfortable Raised Deck Cruiser Built at Home from Knock-Down Frames.

By Chas. E. Grush.

ALMOST every one has seen or heard the little motto—"Never have your wish-bone where your back-bone ought to be." That is about all that can be said to the man who wants a boat and for good and sufficient reasons will not take the money that may have been laid aside for the rainy day.

Ever since Marblehead was settled our family has owned some kind of a boat on the shores of Salem Bay and for the past twenty-eight years the writer has been principal actor either buying or building his own boats. These were not much more than rowboats in the majority of cases, but in the fall of '05 we started our first power boat. By we, I meant my wife and I.

This boat was 20 x 5 ft., and we built it from the foundation up, installed the engine and launched it in six months. My! what a lot of friends a fellow has when he owns a power boat!

As time went on we saw "cruisers" come and go, saw the freedom with which people could move about and even ride on the cabin tops; at times noting how happy and dry the merry parties were, while we at the same time protected ourselves as best we could with canvas covers and oil-skins. All this went on until the middle of the second summer.

I will acknowledge that I had somewhat of a contempt for K. D. frames, but nevertheless time found a stack of catalogs of all colors and hues on my desk. The designs on the covers gave an impression that the book contained golden opportunities and great speed; a glance inside made us wonder whether some of the designers had ever seen the ocean and circumstances as we often find them off Cape Ann. Each company vied with its rival to sell a frame which could be finished with the least possible number of tools; as I remember, one suggested that a hatchet and saw would finish their product into a boat, while we thought that another firm was about to offer the services of a mechanic and chest of tools with each of their frames just as the printers' ink gave out. One firm said: "All the hard work done for you." That is all right, but the easy part that is left will prove

ture of a boat. I did not see just what I wanted in any of the books, the chief objection being the amount of power which was required to get even a moderate speed out of them. This went along until I found a small pamphlet among the rest which looked like an index as compared with the others and that was just about what it proved to be,—a mere list with an invitation to ask for prints of the various boats that were of interest. This

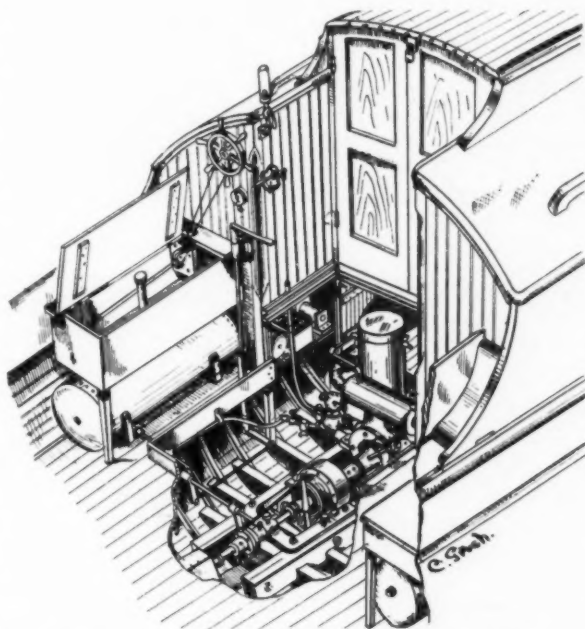
he was about right. We then had a building 15 x 32; there was no place for a stove, and you can readily see close quarters and a cold proposition.

The frame was delivered and hustled into the new quarters with a rush, and the setting up began. It was certainly a joy to have great heavy pieces of oak all shaped up and fitted ready to put together, all the heights estimated and hardly any need to even think; the only thing which required care was having things plumb. It took thirty hours to do it single handed. I forgot to mention that this boat was to be a single hander, so you see I was beginning all right.

Well, after this first stage of thirty hours, I could see myself six months ahead of the schedule and all that time saved, judging from previous experience. Then began the planking, the garboard and sheer strakes were put on, and of such a shape that the remaining distance was equally divided into narrow plank, $2\frac{1}{4}$ inches wide, the whole length of the boat except the tips at the stern. This seems narrow, but when one stops to think that a plank of that width can easily be sprung edgewise even though $\frac{3}{8}$ -inch thick and that the waste is practically nothing, in my case not more than 5 per cent., the reason can readily be seen. Our boat had a compromise stern and the plank tips near the stern were tapered a little. This would not be necessary on a transom stern. It took some little patience to spring the planks and have them stay gracefully where they belonged. A few of the tips broke; one in particular impressed me with a stunning blow in the face. I don't remember just

what was said at that time, but probably there is a record of it somewhere.

Up to the time the planking was done 4,000 nails had been properly driven and burred and cold weather was in evidence. Then came the saddest scene in the drama, the calking, painting and puttying. This had to be done well, even if one had to lie face up on the floor with the thermometer down out of sight and no fire. This is where I discovered the real value of the Parrot calking tool; this was the



The power and fuel installations just aft of amidships.

I did; as a result my ideas grew at the rate of a foot in two days, for in just eight days "we" had grown from a 25 to a 29-footer.

We talked it over at home and came to the conclusion that in two years we could build it, but still when we remembered the work on the 20-footer and then thought of the stem, deadwood, shaft log and keel of a 29-footer, all to be got out with one pair of hands and an ordinary tool chest we had some doubts whether we had either "wishbone" or "backbone."

With all of these doubts and fears in mind and with the assurance that if the frame was unsatisfactory when it came, it could be returned and we have our money back, we placed our order.

Then began a hunt for a place to erect the frame and finish the boat. My shop was so short that we had to build the 20-footer cornerwise, and what could be done with a 29-footer in the same place? Why, build on of course. So an initial account was taken up with Mr. Dexter, the mill man.

Mr. Dexter is one of those great hearted men whom it is a pleasure to meet, one who will have a board planed and sawed off just as you would like it and when you would like it, even if the rush work of the great mill had to be held up a few minutes.

Well, the frame was shipped just exactly as agreed and delivered when the transportation company got good and ready. This was October 5th.

In the meantime the addition had been built and covered with black building paper. It was a sight; it looked, as one man put it, like a good respectable, old fashioned coffin. Guess



The birthplace of Idylease.

sufficiently interesting for the average man, I'll guarantee.

Aside from the design, the acquiring of a frame made of suitable stock is in my opinion of prime importance. It is well known that commercial oak, as found in the average lumber yard is worthless. If you ask a yard man for an oak stick of sufficient size to make a decent keel, you will be immediately voted crazy and held in contempt; and so I say it is worth the price of a frame if only to get suitable stock. This means a lot for the fu-



Idylease ready to leave home.

best value for 75 cents I ever found, and more fun than pushing a wheelbarrow. This little tool has a roller on the end and rolls the cotton into the seam. Patience, perseverance, cotton, paint and putty are well impressed upon the amateur at this stage of the game. No wonder all the books say that it is better for one experienced in the work to do it. Right here let me say that my next winter built boat, for probably I shall have another when the bug gets busy, will be built with

the hollow and round system of planking.

I have had the pleasure of seeing a few boats of this construction after they had been in the water one season and they were all right, presenting a beautifully smooth hull.

About this time the daily paper mentioned the fact that I was building a boat and a greater part of the city either asked for my welfare or dropped in to see how soon I would be able to launch her. Yes, advertising pays.

Days were now growing longer and the lingering daylight afforded a few moments in which to view the work of the preceding season. It is a difficult task, and one that I'll chance will stagger the clairvoyant, to make a mark with a pencil, by lamp light, walk down the length of the shop, feel for the mark in the dark, saw off the board and have it fit so as to look respectable in the day time. And yet this is what an amateur does and is how the average man builds his own boat.

Then we selected our engine, and chose one which looked to us to be of an exceptionally sturdy type, with generous parts and costing as much as we could well afford. It was a $7\frac{1}{2}$ H. P. single cylinder Mianus. The engine and outfit was in stock and to make sure that there would be no delay in receiving the frame I sent our own local express agent right after it. It was in our shop the next day and in the next week I had advice enough to disconcert a prophet. "Engine too small"; "ought to have at least 15 H. P." "The idea of a single cylinder! Vibration would shake the stuffing out of both me and the boat; propeller too large,—engine would never turn it." One man came forward with the startling information that my "hull was top heavy and I ought to have a heavier engine."

At last I began to consider locking the door and suggested the same to one of my confidants. "Oh, no! don't do that," came the reply, "fit your shop with some extra overalls and painting outfit; then set your visitors to work, that will cook them."

The fitting of the cabin sides was a stiff proposition, and as I look back it seems to me the most difficult parts to accomplish. These were of $\frac{3}{4}$ -inch oak boards, 18 inches wide and 18 feet long. A pattern was first made of building paper by tacking it onto the ribs and marking the outline. Then the shape was transferred to the oak boards and the fitting began. It was out of the question to steam them with my outfit, so with the stem ends fastened securely with screws, clamps, ropes and everything at hand, the rear ends, which

stuck out V-shaped the full width of the shop, were brought into place with blocks and tackle. They were then secured with clamps and later with galvanized screws from the inside. Inside is well expressed, for no one could care to be on the outside, and having one of those boards break loose. These sides have had all sorts of abuse since that time, but nothing has started.

Work was now so far along that we installed the engine and painted the inside. Things were going on so nicely that we concluded

sufficient information was sent with the frame to cover everything, but I did not necessarily follow it. Along about the first of June we began to wonder who would put the boat in the water. It was a great joy when my mill man, Mr. Dexter, promised to do the job for us on Saturday, June 12th. So I took half a day from my regular work and tore down that picturesque addition which I built in the early fall. That left the boat one-third out of the shop, but the other two-thirds was the problem.

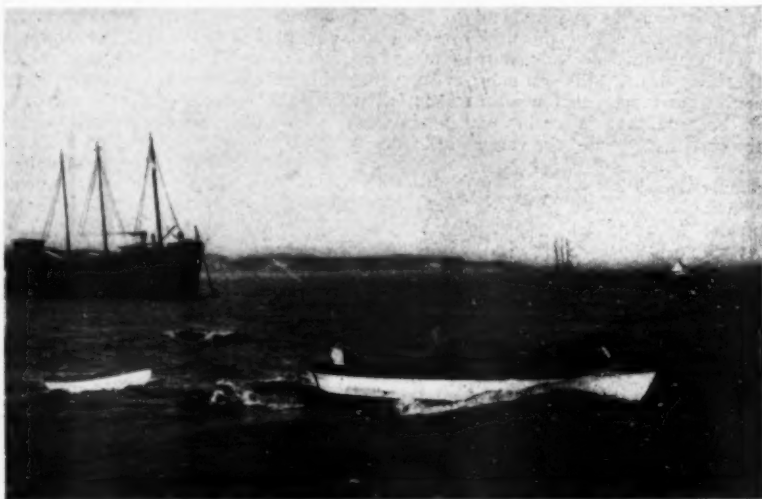
Everything was hustle and bustle, every one who chanced our way had to stop and offer advice. Teams arrived with the blocking and all took a hand in placing it firmly. When all was ready out of the shop slowly came the boat on an elevated road of timber. Inch by inch, over the stone wall and on to a "low down" came the craft. We did not do it as glibly as we write it, for we had new troubles every few feet. It was a glad moment when the two great horses were attached and everybody went across the field with the boat.

We were a little late in getting across town and down to the club-house. The veteran yard man who works around the club-house and hauls out our

boats in the fall, was tired of waiting and was doing some work for himself around home. "She'll have to stay on dry land till Monday." He showed no special interest. "No, never work Sunday. Have to get a man to help and we will put her over Monday. Can't do it alone." But after the horses had nearly sunk in the quicksands, the yard man softened up a little and got out his blocks and ropes. These were fastened to the end of the long club pier and the other end passed through a block which was fastened to the cradle and then on to the pier. The end was unanimously seized by the club men who were looking on. They say that "time and tide wait for no man," but that makes but little difference when a score of men are anxious to see a new boat afloat.

It was not a picturesque launching; the bottle of wine was never thought of; the christening was held when my wife painted "Idylease" on the snow-white quarter just beneath the gilt stripe. The boat was pulled into the water by main strength where our first power boat met her with five gallons of gasoline, and in twenty minutes the Idylease was run out to her mooring under her own power.

We were not slow in discovering that the boat was good for eight miles and that she was not a bad sea boat, dry and comfortable.

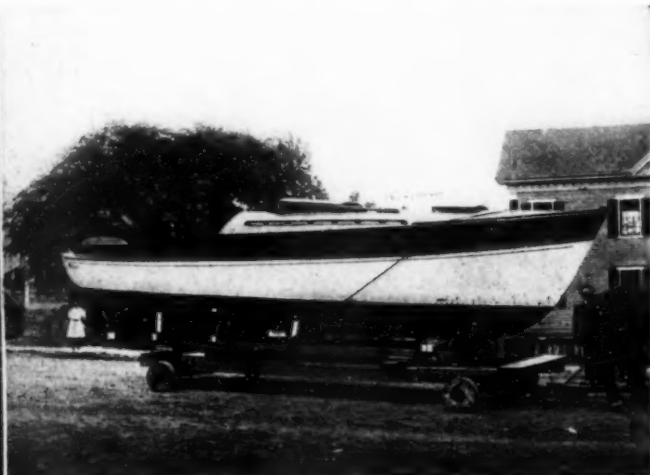


"The power we installed proved sufficient to drive her along at a very good 'cruising speed.'"

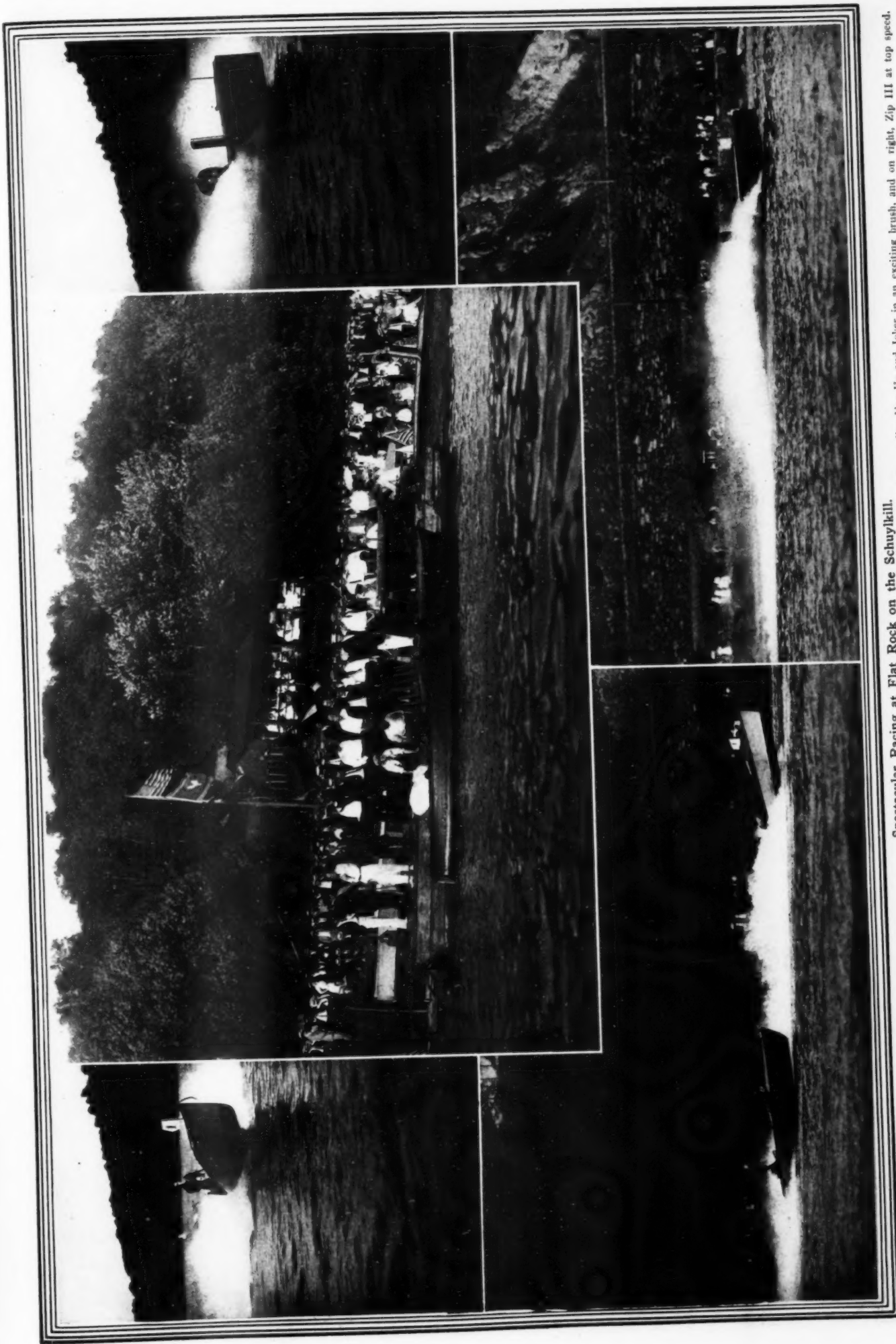
that by pushing a little harder, if that was possible, that we could complete the boat for the coming season. So with renewed vigor we ordered matched pine for the cockpit floor, oak for the seats and lockers, re-sawed, butt joint $\frac{3}{4}$ cypress for the sheathing, matched sheathing of oak for bulkheads, matched cypress for cabin roof, No. 10 canvas for roof covering, varnish paint and then more paint. Much labor was saved by having stock sawed out at the mill. We made paper patterns of seats, backboards and dozens of other things, marked them out on boards, and had our mill man run them out for us on the band saw. This costs perhaps 75 cents an hour and an operator on a band saw will do fully as much in an hour as the average sample of office help can do in a day by hand.

The 7-inch port lights were made with cast composition rings on the outside, placed so as to cover the edge of a $\frac{1}{2}$ -inch thick plate-glass light which was rabbeted in to the cabin side. Elastic cement made all tight. Rings were fastened on by screws from the inside tagged into the ring. This keeps inquisitive people from unscrewing the rings from the outside and the cost all told was 60 cents each.

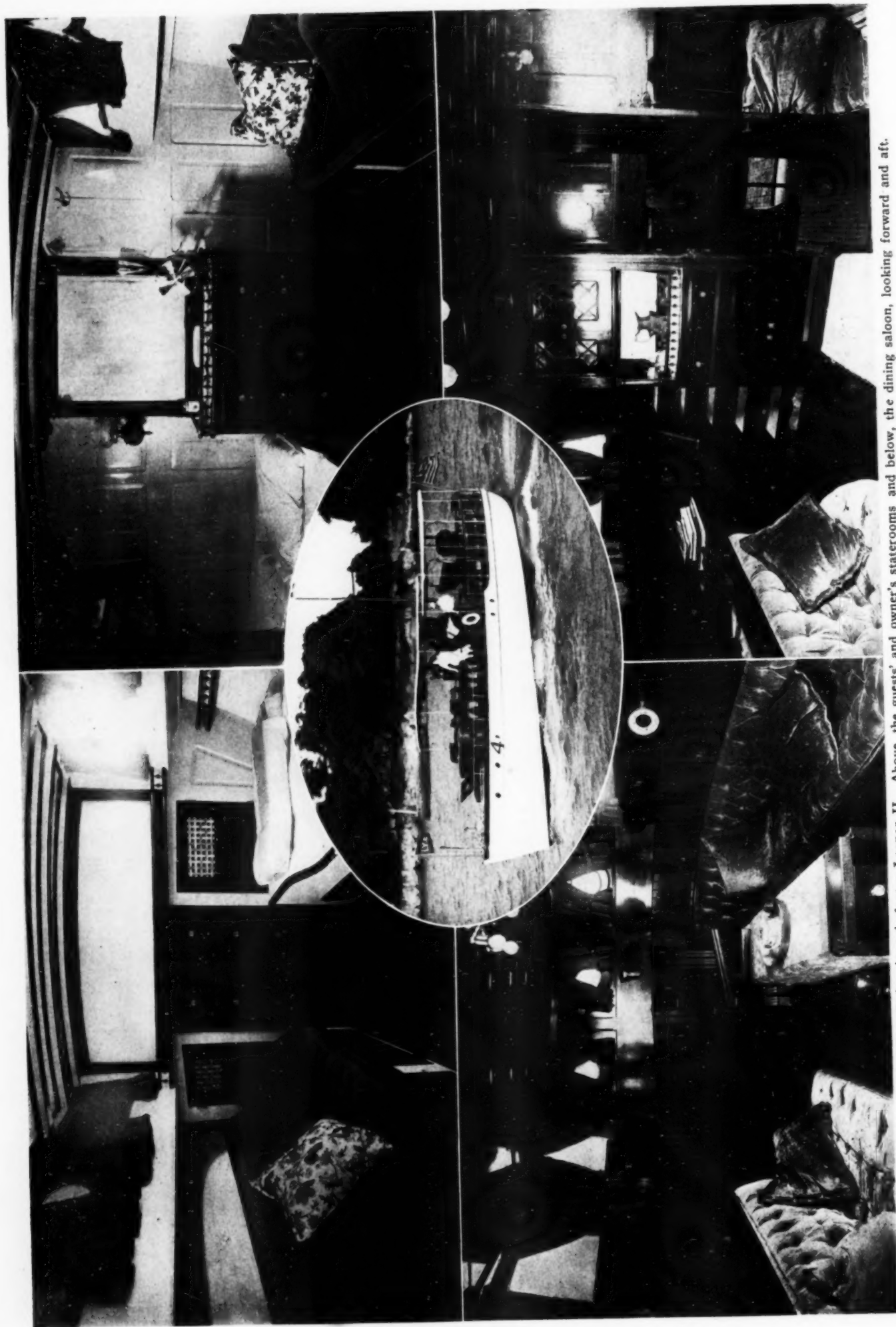
Every process was much the same as is described in all the boating magazines. Suf-



Over the garden wall and onto a "low down" for her trip to the water front.



Above, the Flat Rock Motor Boat Club house; on left, Joker, the winner on corrected time; on right, Zip III, the boat that made the fastest time. Below, on left, are Vee Hoo and Joker in an exciting brush, and on right, Zip III at top speed. For results see page 46.



The comfortable interior of the sixty-six-footer Leonor II. Above, the guests' and owner's staterooms and below, the dining saloon, looking forward and aft.

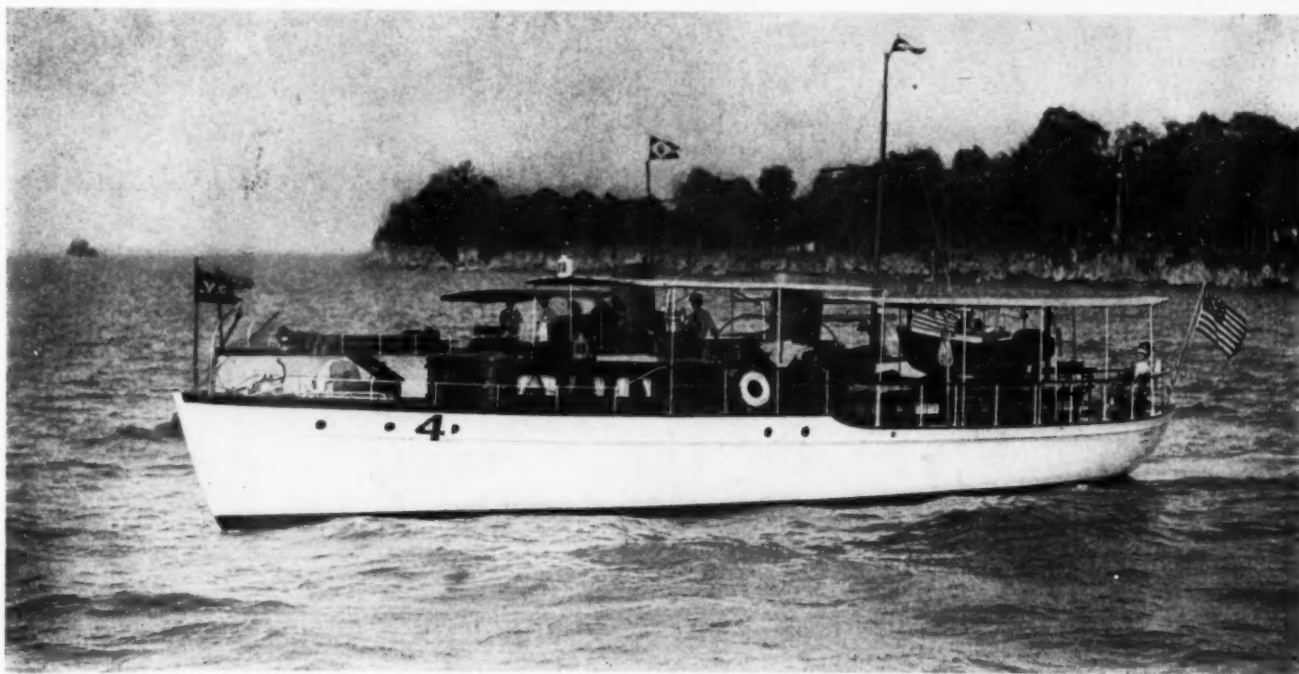
The Sixty-Six Footer, Leonor II.

L EONOR II is the second large cruiser, built for Mr. M. B. Grover, of Cleveland, by the Matthews Boat Company, of Port Clinton, Ohio, and the photographs on this and the opposite page give a very comprehensive idea of the interior and exterior appearance.

She is a raised deck 66-footer, of thirteen

tains an independent Fay & Bowen electric light plant. Two gasoline tanks, each of 90 gallons' capacity, are placed one on either side of the engine room. The forward bulkhead is of steel and is built water-tight, with steel angles about the sides, and stiffening webs every 18 inches. A bulkhead at the after end of this compartment is also of steel, but is not

owner's use and is arranged with two large staterooms, the owner's stateroom being fitted with a berth 4 feet 4 inches in width, with a sofa berth on the opposite side of the room. Hanging lockers are provided and a dresser is located at the forward end. The finish of this room is cream enamel with mahogany doors, furniture and trim, and green upholstery and



Leonor II maintains a cruising speed of twelve miles an hour with an engine of but fifty horsepower.

feet beam and three feet six inches draft, and the keynote of her design was to obtain the largest boat possible for one man to control. Her ends are of the canoe type and the raised sides extend to about amidships. The forward deck house is set far enough aft to allow ample deck space for the handling of lines and ground tackle and is sunk deeply to preserve the trim appearance of the craft. Just aft of this and occupying the aftermost part of the raised deck is the bridge, well protected by the cabin trunk and large enough, with chairs and its cross seat, to accommodate quite a party.

From the bridge deck the after cabin trunk extends to the flush deck at the stern. Upon this trunk, just aft of the bridge seat, is a good sized stack which adds materially to the appearance of the boat. Some distance aft of it, almost too far for appearance, is the signal mast, and a tender also is carried in chocks on the trunk cabin roof.

The flush deck aft is large enough for several chairs, and communication between it and the bridge and forward decks is had by runways on either side of the trunk.

The engine room is beneath the bridge deck and besides the 50 h.p. Standard engine con-

water-tight.

The forward deck house is fitted to be used as a dining saloon and is equipped with a special table. A buffet and galeys are located at the after end of this house. Steps lead from here to a forward stateroom, fitted with a single berth and a sofa seat, with a lavatory compartment forward.

The after cabin is given over entirely to the

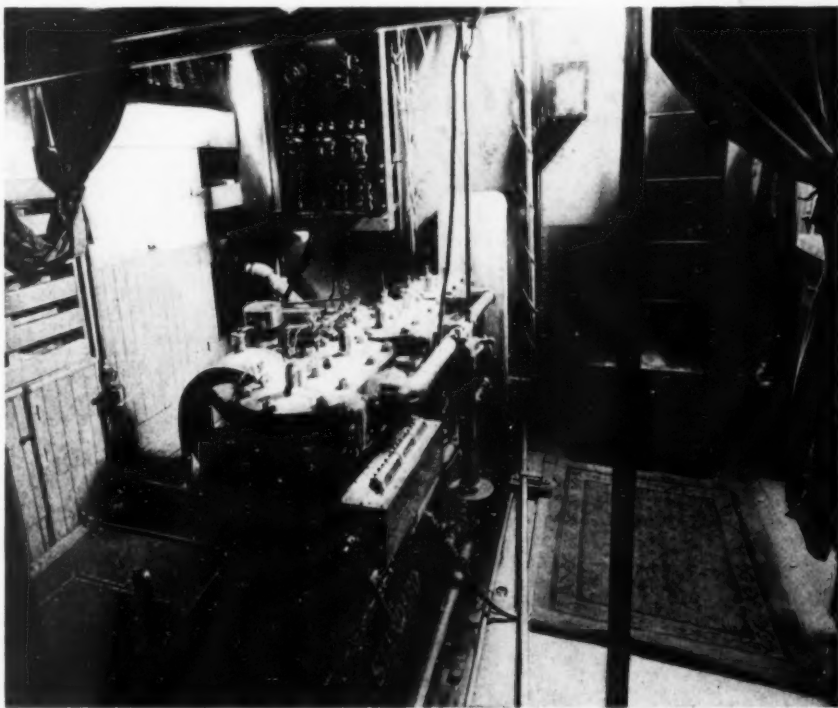
carpets. The starboard side gives access to the deck by a companionway and is constructed with a lobby at the base with doors opening into the lavatory and owner's and guests' stateroom. Immediately opposite the companionway is the bath room.

At the after end of the cabin is the guests' stateroom, fitted with a double berth on the starboard side and a sofa berth opposite, a dresser, and hanging lockers. A locker at the forward end opens into a space under the companionway steps, making a large closet. This room is furnished in cream enamel with mahogany trim and the upholstery is in brown silk velour.

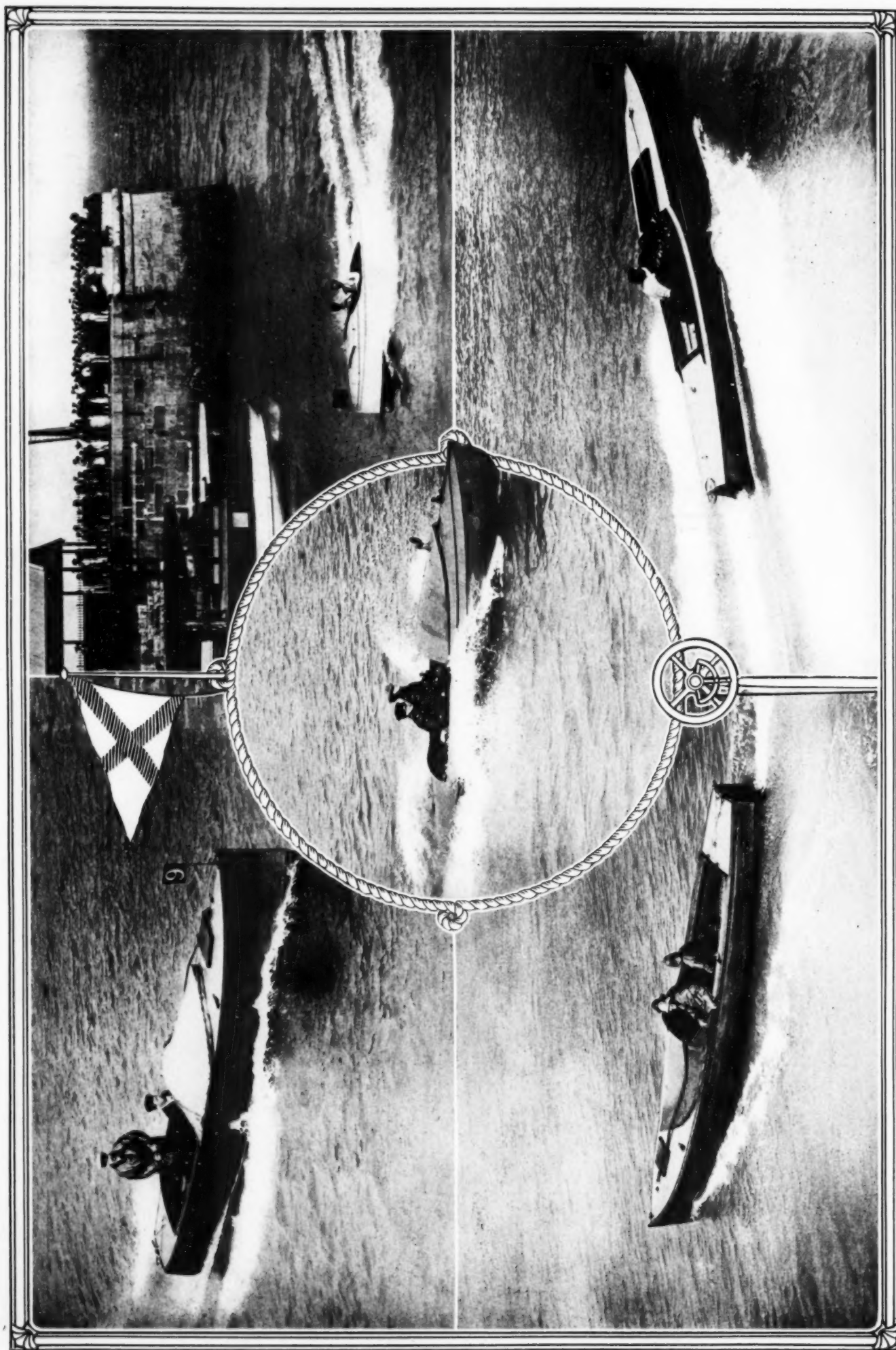
The entire vessel, as shown, is covered by awnings, the bridge awning being fitted with side curtains so that it can be entirely enclosed. Celluloid windows are provided for the bridge deck so that the entire deck may be closed to protect the helmsman.

In making twelve miles an hour with the fifty-horse motor the boat does remarkably well. She flies the flag of the Lakewood Yacht Club, and will be used in both Northern and Southern waters.

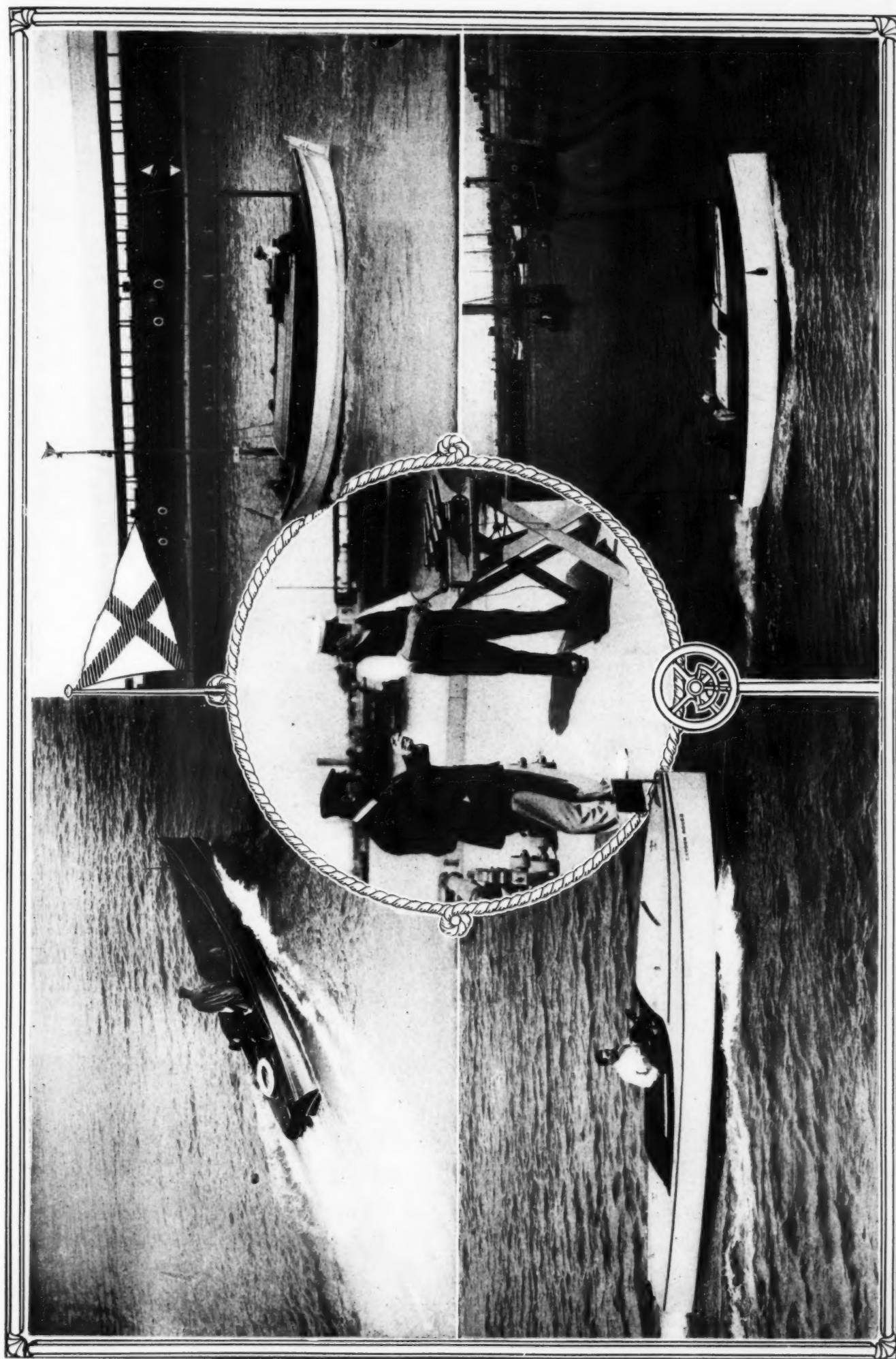
A duplicate of Leonor II was built for Mr. H. W. Kanouse, of Detroit.



The fifty-horsepower Standard and the Fay and Bowen electric light plant.



A number of motor boats that have been prominent in the season's racing in England. The boat in the center is Vice, owned by Mr. W. Schmall, the winner of the British Motor Boat Club's Cup.



Prominent British runabouts and cruisers. The boat in the lower left hand corner is Cordon Rouge, the winner of the twenty-one foot class at Ramsgate.

Miscellaneous Motor Boats.

Sky Pilots on Long Cruise.

THERE are motor boats devoted to nearly every character of maritime work, but here is a craft that takes, or rather is taking, four "sky pilots" on a cruise from Chicago to Chicago via the Mississippi River, Atlantic Coast and Erie Canal.

This cruise is not a pleasure trip for the four ministers, who are of the sect known as Israelites, which have a colony at Benton Harbor, Michigan, as they stop at every town and hamlet and preach their gospel. They have been afloat in their mission boat, called the "House of David Messenger," since November 14, last, and they are now on their way up the Hudson.

The Messenger is 26 feet over all, 8 feet beam and is propelled by a four-horsepower, single cylinder Waterman motor, giving them a speed of five miles an hour. A fair-sized sail helps when the wind is fair. While their quarters are somewhat cramped they have nevertheless had a successful cruise, reaching Baltimore in mid-summer. Up to that time they estimated that they had traveled 4,000 miles of which 700 miles was on the wide waters of the Gulf of Mexico and the Atlantic Ocean. The roughest weather, however, was experienced in Pamlico Sound and the lower part of Chesapeake Bay.

Mr. Charles Disson is in command of the voyage and he informed the writer that during the entire trip he did not once employ a local pilot but relied upon charts and the coast pilot book, finding them thoroughly accurate. The little engine has been satisfactory and once ran 24 hours without a stop when they were in the Gulf.

The Hague, a Catamaran.

THE HAGUE is a 30-foot motor catamaran built by Mr. LeRoy and Philip Armitage of East Orange, and was seen on Lake Hopatcong this summer. The hulls are 14½ inches wide by 15 inches deep, drawing 3 inches at the bow and 8 inches at the stern. The motor is a 12-horse 2-cylinder Gray, mounted about amidships, and it is claimed that the speed is more than would be possible in any sort of a hull of equal length.



This craft is appropriately named the House (not boat) of David.



The Hague, a 30-foot motor catamaran on Lake Hopatcong.

Two Fast V-Bottoms.

GRIZZLY BEAR was designed by Wm. H. Hand, Jr., of New Bedford, Mass., for Mr. Nelson Doubleday, of Locust Valley, Long Island, and has proved very successful in every way. This little craft "planes" perfectly at all speeds over 15 miles per hour, and at high speed runs on about six inches of the forward plane, and three feet of the stern, while the section between these two points is practically clear of the water. The photo shown was taken on the trial trip, before the engine had been sufficiently limbered up to give its full power, although the speed at that time was in the neighborhood of thirty miles per hour over a measured course.

Grizzly Bear is of Mr. Hand's V-type construction, with a single step, the break occurring just aft of amidships. She is equipped with a six-cylinder two-cycle 4½ in. x 4½ in. Erd motor, which turns a three-blade 17 in. diameter, 34 in. pitch Hyde wheel, about 1,200 r.p.m. The dimensions are: Length over all, 21 ft.; beam, 4 ft. 6 in.; draft of hull, 6 in.

Piute II is a fast 21 ft. V-bottom also designed and owned by Mr. Hand.

The accompanying photos show the clean way in which she travels at top speed, and the almost total absence of spray. The high free-board forward enables the owner to fish "outside" in almost any weather.

The motor is an Erd 4½ in. x 4½ in. three-cylinder two-cycle, driving a 16 in. x 24 in. three-blade Hyde wheel, about 1,200 r.p.m. The dimensions are: Length over all, 21 ft.; beam, 4 ft. 11 in.; draft, 11 in.



Grizzly Bear, a 21-foot V-bottom hydroplane, and Piute II, a runabout of the same type designed by Mr. William H. Hand, Jr., of New Bedford.

Motor Gunboats for Turkey.

Twenty-Two Motor Boats for the Suppression of Smuggling and Piracy in the Orient.
Besides Three Shoal Draft Motor Mail Boats, All to Be Run on Kerosene.

By J. Rendell Wilson.

AN important order was placed some months ago with Messrs. John I. Thornycroft & Co., Ltd., for twenty-two armored motor patrol vessels, for the prevention of smuggling and kindred purposes in the Orient, and it is probably the largest contract ever placed for kerosene engined craft. These little vessels are being built at the firm's Woolston works to the order of the Imperial Ottoman government for service in the Red Sea, Persian Gulf and Mediterranean, and several have already been delivered. The dimensions are: Length, 60 ft.; breadth, 11 ft.; depth, 5 ft. 6 in., and the draught of water has been kept down to the minimum, being only 2 ft. 6 in. to render them capable of shallow river work.

The lines were designed to give the best results on a shallow draught, the flat torpedo-boat stern giving easy running lines, and prevents squatting when going at full speed. On a mean of six runs over a recognized measured mile the speed was 11 knots, and this speed had to be maintained for a further period of two hours; but on official trials a speed of over 11.9 knots has been attained with the engines not fully extended; in fact, all the boats yet tried have been capable of a knot over the contract speed.

Steering is effected by means of a hand steering gear fitted in an armored wheel house, and connected to the tiller on rudder head by wire rope leads. Protection has been afforded to the steersman by constructing the wheel house of bullet-proof nickel steel. Circular brass

framed lights having armored deadlight plugs with sight holes are fitted to the wheel house for light and air. The hulls are protected against rifle bullets by means of bullet-proof nickel steel fitted inside. This extends from the aft end of the after cabin to the forward end of the motor room, and from the waterline to the deck. The motor casing also has been protected, to prevent delicate parts of the

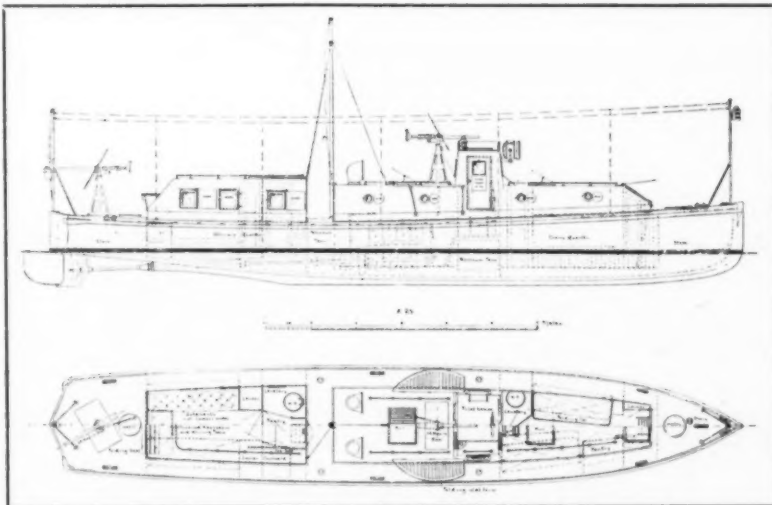
motors being damaged by bullets. The top of the motor casing is covered with nickel steel, bullet-proof at 60 degrees.

The accommodation and machinery arrangements of the boat are compact. The latter is installed in a separate watertight compartment amidships, and is separated from the cabins, etc., by steel watertight bulkheads. At the forward end of the motor compartment are

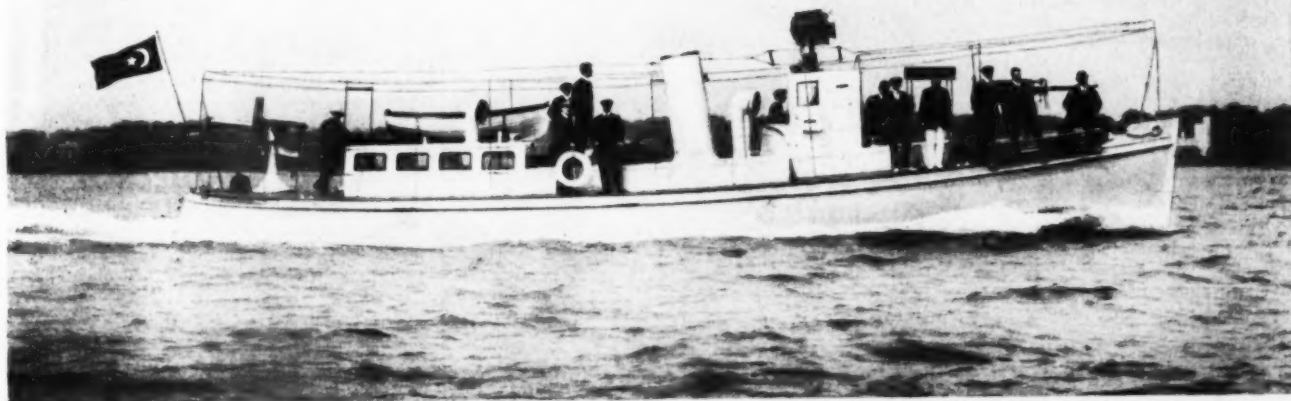
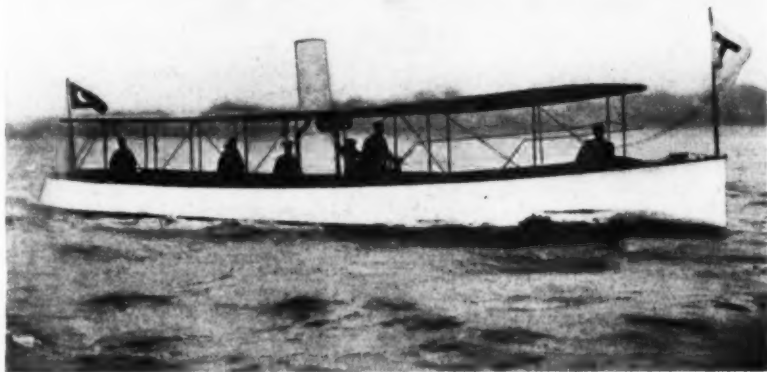
two circular brass fuel tanks, the upper one being used as a service tank and supplies the motors by gravity feed. To reverse tanks, also of brass, are placed in the stern compartment, and connected to the forward tanks by means of a semi-rotary pump. The total fuel capacity is about 740 gallons of kerosene, giving a range of over 600 nautical miles at full speed.

Abaft the machinery a cabin for the officers has been arranged, with sofa seat berths, having cushion backs, on each side of the cabin; and the seat backs are arranged to hinge up to form top berths. At the fore end of cabin are located a lavatory and pantry for officers' use. The underside of the cabin skylight has been lined with "Vanesta" wood in panels, with air space to keep the cabin cool.

Forward of the machinery space a cabin has been provided for the crew, with locker seats on each side to form lower berths, and folding pipe berths with canvas bottoms above. A small oil cooking range has been provided and is fitted in the crew space, and at the forward end of the crew



The design of a motor gunboat for the Turkish Government.



Above, one of the shoal draft mail boats and below, one of the fleet of twenty-two gunboats built by Messrs. Thornycroft & Co., of England, for the Turkish Government.

space a lavatory is provided for the crew. For protection from the heat of the sun the boats are fitted with double canvas awnings, running from stem to stern, carried on ridge wires and supported on wrought iron stanchions.

Two guns have been fitted, one forward and one aft, of the Vickers Maxim patent 37 m/m quick firing type, having water cooled barrels. One thousand rounds of ammunition per boat are carried, and are stowed in lockers in the crew's and officers' quarters.

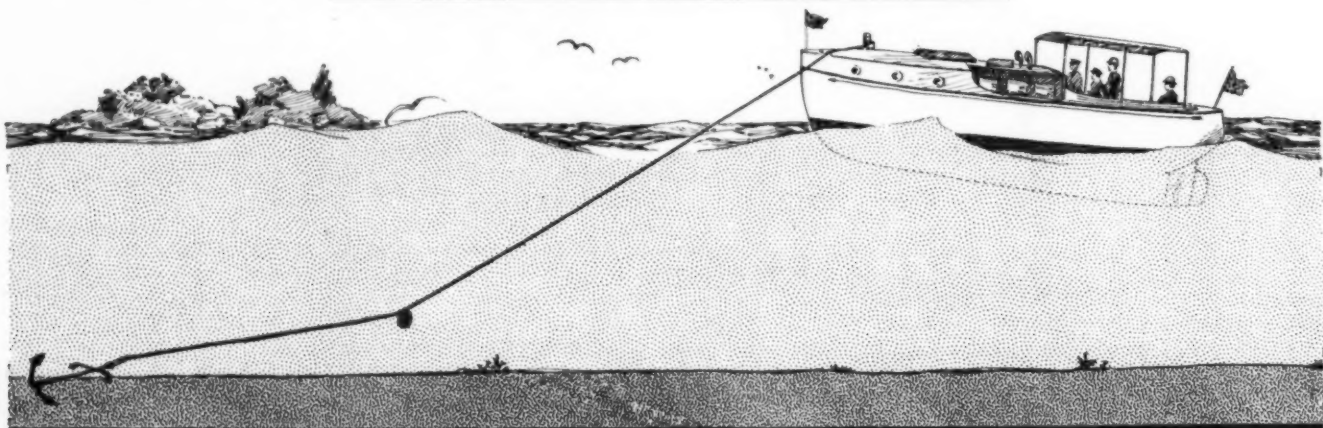
The construction of the hull is practically similar to that adopted by the British admiralty for their 50 ft. and 56 ft. Pinnaces; but seven boats are being built in steel, of which three will have a draught of only 22 inches. The shell consists of two thicknesses of teak, the inner thickness laid diagonally, and the outer fore and aft. The hull from keel to about

4 inches above the waterline is covered with 12 oz. copper sheathing. The keel is of oak with a 1½ in. rubbing strip to take the wear. All boats have been built under the supervision of Lloyd's surveyors, and are equal to class A in their Yacht Register for River Service, while the mild steel armor has been tested under British admiralty supervision.

Regarding the power installation the main engines consist of two of the Thornycroft C/6 type, having six cylinders of 6 in. bore x 8 in. stroke. At 750 revolutions per minute each engine develops 70 h.p., but in these boats the revolutions are reduced to 670 per minute by means of a spring controlled governor. Starting is effected on kerosene by heating the vaporizer with a blow lamp, or, if gasoline is available, by running on it.

It is of interest to note that, in addition to

this fleet of motor gunboats, Messrs. Thornycroft recently built three 63 ft. twin-screw motor mail-boats of the shallow draught type to the order of the Governor General of Bagdad for service on the Euphrates, and which have been running very successfully. They are built of steel with a 9 ft. 6 in. beam and 2 ft. 3 in. fully loaded draught; the displacement being 12½ tons. In addition to carrying the mails each boat has seating capacity for fifty passengers. The machinery in each boat consists of two four-cylinder Thornycroft motors of the four-cycle type developing 47 h.p. apiece at 500 r.p.m., but can be accelerated to 800 r.p.m. The fuel, of course, is kerosene. From the time of laying the keel-plate to the trial of the first boat it was only eight weeks. On trials a speed, when fully loaded, of 13.4 knots was attained.



A Kellet prevents the stock from rising and will improve the holding power of any anchor.

Choosing the Ground Tackle.

A Discussion of the Anchors Required on the Motor Boat and Suggestions for Their Use. The Strength of Chains and Cables and the Length That Is Required.

By F. M. Comee.

THE ground tackle of the genuine cruiser is one of the most important, if not the most important, parts of her equipment, as there is always the chance that the safety of the boat, if not the lives of those on board, may have to be trusted to it; and one should have the best that may be procured and the knowledge to use it intelligently. Poor tackle can be eased and handled so that it may hold during a blow, and on the other hand, good tackle can be so manipulated, through ignorance, that it will not do the duty required of it. At all times the skipper should know the exact condition of his ground tackle and keep it right up to the mark and ready for any strain that may be demanded of it, as even on a summer cruise one is liable to have to ride out a gale. It is better to have things ready for whatever comes than to have a quick and sorrowful ending to what should have been a pleasant time.

The anchor, in some form or another, is undoubtedly one of the oldest implements of a seafaring people, and while the writer knows of no really authentic history of it, we may, with the help of our imagination, trace its development first from a rough stone, then the stone bound to a piece of wood, next lashed in the crotch of a tree limb, again improved by fastening a straight limb across the two arms of the crotched limb and after the discovery of iron and the art of forging, our present variety of anchor has been the result of man's ingenuity.

In addition to the common anchors of our coasting schooners are the various varieties of stockless anchors which one invariably sees at the bow of the large steamships, housed in the hawse pipe, and which have been adapted to the power cruiser, the different types of folding anchors with their joints and pins,

and the mushroom which is used in the most part for moorings.

In choosing the anchors (and a real cruiser should never go to sea with less than three) the size and design of the boat should be considered. A flat, high-sided full-bowed craft is much harder on the ground tackle and needs heavier anchors and cables than a deep, narrow boat with a sharp bow. A good rule is a pound of anchor for each foot of over-all length, but one may find that this can be varied a little according as the boat is a hard or easy rider.

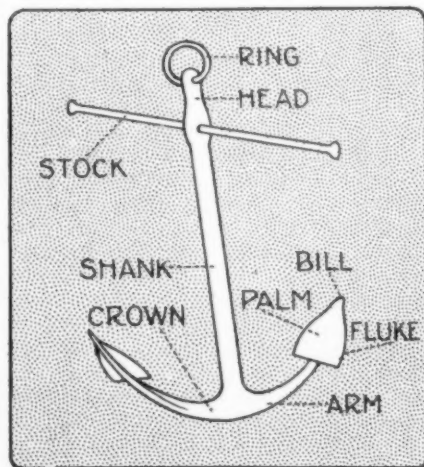
It is the up and down motion of the cruiser more than the straight pull that worries the

anchor most. For an illustration of its working, take the common laborer's pickax. Drive it into the ground to the helve and try to get it out with a straight pull. It will be found well nigh impossible, but raise up on the handle and it comes out quite easily. This is the theory of the anchor and is really very simple after all. It shows clearly the reason for giving plenty of cable when anchored in a seaway.

On a power cruiser of say fifty feet that is used for long trips there should be four anchors, as follows: two always at the bow ready for instant use, which together should weigh one hundred pounds. This may be divided evenly or not, as one prefers, a good way being to have one of forty and the other of sixty pounds, using the lighter one ordinarily, as it will be easier handled, and keeping the other in reserve. A heavy spare anchor stowed away below will probably never be used, but if it is, will be in some emergency when the fact that it is aboard and ready for use will more than make up for the uncomplimentary remarks that have been passed upon its uselessness by the day sailors.

A handy anchor (and the only one that may be left ashore on a cruise) is a light kedge with long arms, shank and stock and sharp narrow flukes, and comes in handy many times when one wishes to anchor for a short time only in a protected place. The anchors should all be galvanized, well designed and uniformly strong.

In deciding upon the cables for a cruiser, there are several important questions to be settled before a selection can be made. One of the most important of these questions is: where is the cruising to be done? But no matter where one goes he should be sure to have cables that are long enough, as it is no pleasant



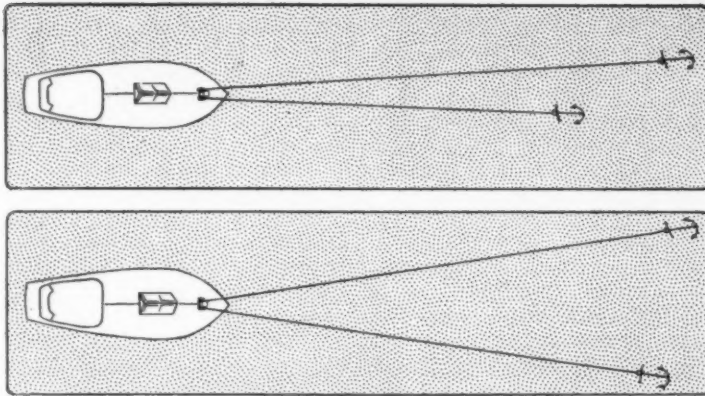
The old reliable kedge is unsurpassed for all-round use.

task to be obliged to turn out at night in a blow and have to get under way for a more shallow anchorage because she is dragging and there is no more cable to pay out. If the cruising ground is to be to the eastward along the Maine coast and perhaps farther, a glance at the chart shows that this is a locality of deep water and strong tides and the ground tackle should be selected with this fact always in mind. On the other hand if the cruising is to be done in Long Island Sound or the adjacent waters the chart will again show the depths of the various anchorages.

Our coasting schooners usually carry one hundred and twenty fathoms on the port and one hundred fathoms on the starboard anchor, the idea being that as they always let go the port anchor first, if it is necessary to put over a second, both will have about the same length of cable when they slack away to ride. About six times the depth of the water in which one is anchored is generally sufficient cable with which to ride out a blow.

Cables may be either galvanized chain or manila rope (the kind listed as bolt rope being the best) and each has its advantages and disadvantages. While the craft will not ride so well to the chain in a blow, it is much easier to care for than rope, and with the small windlass generally found up forward handles nicely, although without the windlass it is heavy and hard on the hands. If brought up muddy, it is an easy matter to lay it out on deck where a few buckets of water will soon clean it and leave it ready for the chain locker. Owing to its weight and lack of elasticity the boat rides hard to it, rising slowly and falling quickly in a sea, with the liability of snapping at any sudden strain. Sometimes when riding to a hard wind to offset this lack of elasticity the chain, instead of being made fast to the forward bits, is ranged through the hawse pipe and along deck for about a third of the boat's length where a manila cable is bent on and carried to the stern bits and there made fast. This gives some spring and the rope is sometimes stretched clear to the hawse pipe.

Now for the manila, while it is at times a rather wet and disagreeable shipmate, the lightness and its own elasticity make it a much easier cable for a boat to ride to. It is not so readily cared for and is more expensive, as its life is shorter. It should always be thoroughly dried before being stowed away, and seized



In using two anchors, keep them in line, as they will hold much better than if widely separated.

Table Showing Approximate Weights and Strengths of Chain.

Size, Inch	Average weight per fathom, In pounds	Proof test, In tons	Average breaking strain, In tons	Suitable for ship of, Tons	Size of Anchor, Pounds
3/8	1 1/4	1/8	1/8	1 1/2	...
3/16	3	1/4	1/4	2	30
1/4	4 1/2	3/4	1 1/4	4	50
5/16	6 1/2	1 1/2	2 1/4	8	75
3/8	9	2	3 1/2	12	100
7/16	12	3	5 1/2	18	125
1/2	15	4	6 1/2	30	150

Table Showing Approximate Weights and Strengths of Manila.

Size in circumference, 6 thread	Size in diameter, 3/16 inch	Weight of 100 fathoms, 12 lbs.	Breaking strength, in pounds, 540 lbs.	Number of feet in one pound, 50 ft.
9 "	3/8 "	18 "	780 "	33 " 4 in.
12 "	5/16 "	24 "	1000 "	25 " 4 in.
15 "	3/4 "	30 "	1280 "	20 " 8 in.
1 1/2 inches	7/16 "	37 "	1502 "	17 " 8 in.
1 3/4 "	1/2 "	46 "	2250 "	13 " 3 in.
2 "	9/16 "	65 "	3062 "	9 " 6 in.
2 1/4 "	5/8 "	80 "	4000 "	7 " 3 in.
2 1/2 "	3/4 "	98 "	5000 "	6 " 3 in.
2 3/4 "	7/8 "	120 "	6250 "	5 " 3 in.
3 "	1 "	142 "	7500 "	4 " 6 in.

with a bit of canvas or other material where it passes through the chocks to prevent chafing when at anchor. The Grand Bankers always ride to rope, as they would either snap a chain or pull the bits out in rough weather.

The strength of either cable should be at least four times the strain that is expected to be put upon it. The wind pressure exerted in a strong blow is about five pounds per square foot, so the strain from this source (leaving out of consideration the action of the sea) may be figured from the surface the boat presents as she lays head on. Perhaps the best equipment for cruising would be a galvanized chain for ordinary use and a bolt rope hawser for an emergency.

The tables herewith are from the catalogue of the A. S. Morss Co., Boston, Mass.:

In cruising one should have his mind made up about where he intends to anchor before the day's run is finished and have consulted the chart and become thoroughly familiar with the locality and the character of the bottom. This done he may approach his anchorage intelligently. It is a good plan to inspect the ground tackle before getting in too close as I have seen an anchor thrown over by one

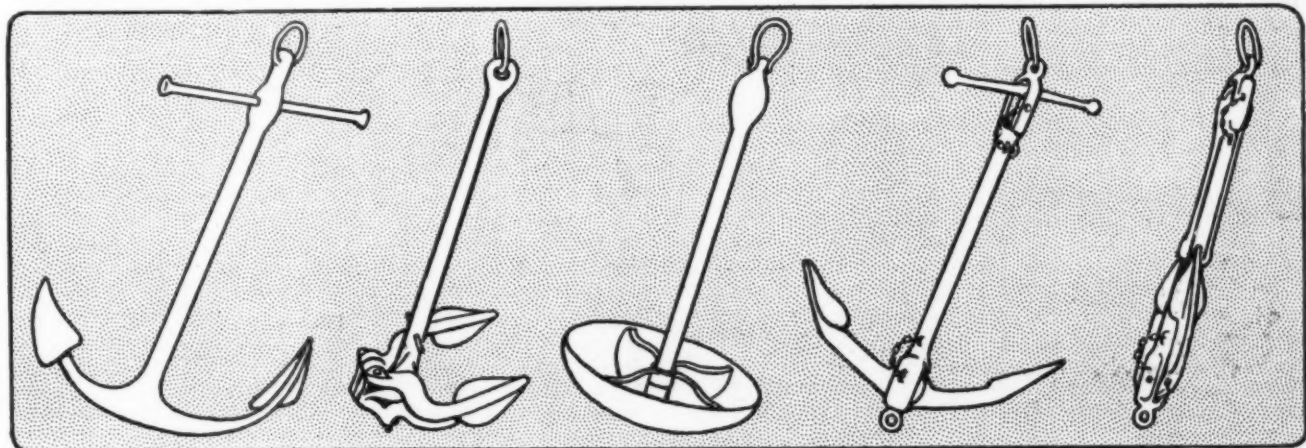
of an amateur crew without being made fast to the cable.

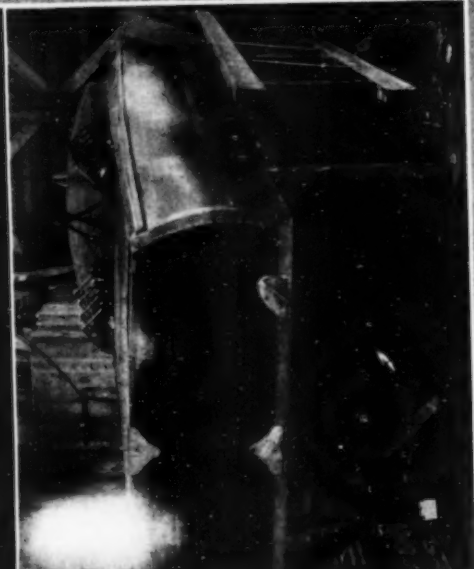
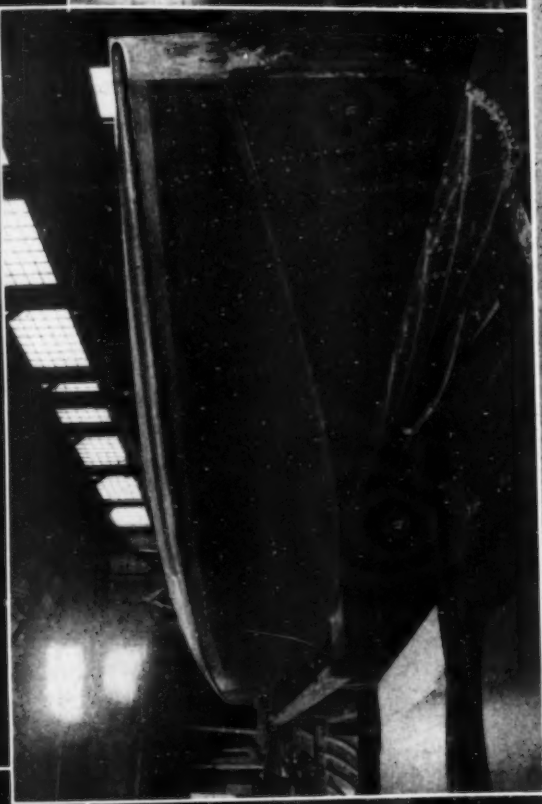
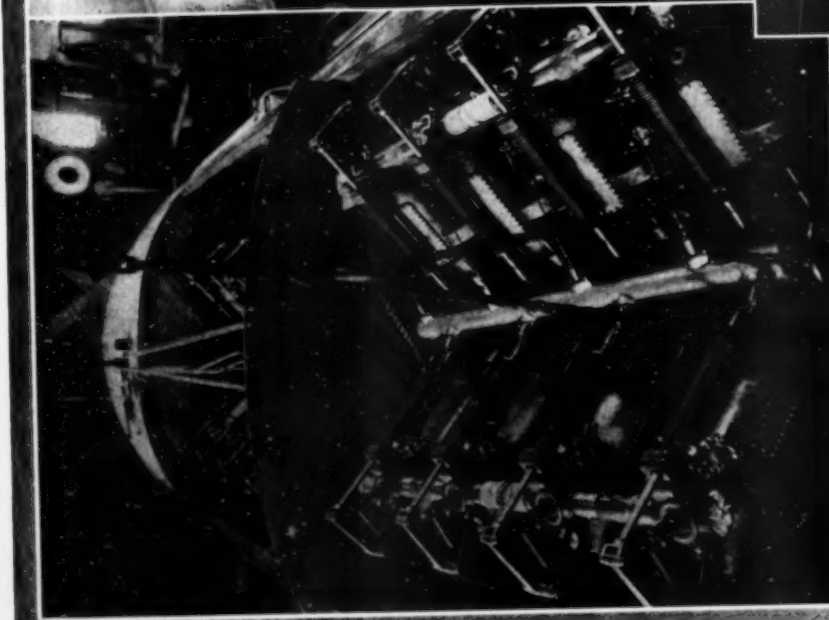
After selecting the exact spot, giving due consideration to any neighboring craft and allowing plenty of room in which to swing, shut off the power and head up into the wind. When she has lost all headway let go the anchor and let her sag off until enough cable is out; don't give it to her but let her take it slowly. Be sure that she has stopped going ahead before the anchor is let go, as otherwise you are liable to trip it or foul it with the cable. When there is enough cable out make fast and watch to see if she is dragging. If she is it may be ascertained by laying the hand on the cable, when one will feel the vibrations caused by the anchor as it scrapes along the bottom. A range should always be taken on shore, which will also aid in determining whether she holds.

If one thinks it necessary to put out a second anchor it should be done before too much of the first cable has been paid out, as it is a wet and nasty job to try to shorten up and put it out after the blow has come. It should be put over so as to lie in line with the bow and the first anchor and not way out to one side.

When using only one anchor a kelet is sometimes used to help it hold. This kelet is a weight of some sort attached to the cable several fathoms from the anchor, the idea being to sag the cable and give it a straighter pull on the mud-hook. Anything sufficiently heavy will do, and it helps break the up and down motion which the cable receives from the boat. The best way to put one on is to slide it down the cable on the bight of a lashing with a light line attached to prevent it going clear to the anchor. I have been with an old fisherman in a fifty-foot auxiliary sloop who always had a kelet on his cable. He used a stone of about fifteen pounds with an eye-bolt set in and had it made fast four fathoms from the anchor.

Another thing is to give plenty of scope. Of course if too much is given she is liable to trip the anchor in swinging, but it is better to have plenty than not enough. I remember one seventeenth of June, when we were anchored off the Boston Yacht Club at Hull, waiting for the races to start, a small sloop came in near us. The skipper was evidently rather green, for he anchored her with the cable straight up and down and could not understand why she wandered around so.





Photographs by Levick.

How Dixie IV, the fastest forty-footer in the world, was built.

Dixie IV was designed by Clinton H. Crane for Messrs. Burnham, McVillie and Hecksher and was built by the Staten Island Ship Building Company. Her power plant consists of two eight-cylinder V-type Crane engines, one of which drove Dixie III. It will be seen that the underbody is V-shaped forward, terminating in a flat plane aft. An auxiliary plane of bronze, which may be seen in the upper middle photograph, is bolted to the hull amidships, forming a step and strengthening the hull where it enters the water.

From Motor Boating Readers.

A Department for the Exchange of Ideas and the Discussion of Questions of General Interest.
Editorial Opinion on a Number of Questions Submitted by Readers of the Magazine.

MoToR Boating's columns are open to its readers, not only for asking questions, but for placing before other readers ideas, results of experience, opinions, etc., that should be interesting or helpful to them; but the editor will not, of course, be responsible for any opinions expressed or statements made in such communications. The name and address of the writer must necessarily be given in every case to make an answer by mail possible (no anonymous contributions will be considered for publication), but names will be omitted in publishing the letters and answers where desired, in which case it is desirable that initials or other distinguishing signature be appended. Through the correspondence department readers of the magazine may be of direct aid to one another in solving the problems of motor boating.

The Water Jacketed Carbureter.

To the Editor of MoToR Boating, Sir:—

As a reader of MoToR Boating I desire your opinion on a matter pertaining to proper size of propeller for my new boat just about completed.

The particulars of design are as follows: Length, 30 ft.; beam, 3 ft. 10 in.; speed model of very fine lines; construction of medium weight; planking, $\frac{5}{8}$ in. cedar; ribs, $\frac{7}{8}$ in. x $1\frac{1}{8}$ in., 7 in. centers; decks, $\frac{3}{8}$ in. mahogany; lining, $1\frac{1}{4}$ in. cedar; floor, $\frac{1}{2}$ in. cedar; 20 ft. of open cockpit; balance of length is mahogany decks mentioned above. There are no cross seats, wicker chairs being used for seats. Propeller will hang from strut, there being no skeg on boat. Engine is 6-cylinder Rochester, $3\frac{1}{2}$ in. x $3\frac{3}{4}$ in., rated as 24 h.p. by the makers, but which I understand will develop about 30 h.p. at 1,000 r.p.m.

Let me know the proper dimensions of propeller to get best speed out of boat, also whether the engine will develop the rated h.p. and what the h.p. would be at, say, 800 r.p.m., 900 r.p.m. and 1,000 r.p.m.

I also would like your opinion in regard to the efficiency or deficiency of the water jacket carbureter. The Schebler people make a model "L" carbureter that has a water jacket for piping the heated water from the cylinders, which eliminates the necessity of piping hot air to it in winter weather. I used a water jacket carbureter made by the Rochester Gas Engine Co., or rather it was supplied by them on their 1909 engines. I ran this all last winter in zero weather on a 3-cylinder engine and noticed that the engine turned up fully 50 revolutions faster per minute than what it did in the middle of summer; now I account for this, that having the water heated carbureter, it allowed the cold air to go into the cylinders which would have greater expansion than heated air, therefore giving more power. Am I right in this view? If so, could I not get a little extra power from my new 6-cylinder engine in the hot days of summer by arranging some sort of device for cooling the air, say, make a rig that the air would have to pass through ice. A small, not very heavy, arrangement might be made that would work for an hour in case of a race being on, that would

likely give 50 r.p.m. more speed or even only 25, would be worth the trouble. My new engine is being equipped with Schebler Model "L" carbureter.

DAVID P. KANE, Kaslo, B. C.
Substituting in the formula $A \times L \times N \times C$

in which A = area of one cylinder in sq. in.
 L = length of stroke in feet
 N = revolutions per minute
 C = number of cylinders
we find the horsepower at 800, 900, 1,000 r.p.m. respectively, to be 19.2, 21.6 and 24.

Using 900 r.p.m. as an average for the propeller calculation, and using the method described in the June issue of MoToR Boating, we proceed as follows:

For narrow boats $C = 8$

Substituting in the formula $M = C \frac{\sqrt{L \times P}}{B}$

we obtain 18 as the speed in miles per hour.

Solving for r in the formula $r = \frac{R}{M^2 \sqrt{M}}$

we obtain 3.5 from which in figure I we read that the slip equals 18% and the efficiency 72%

From table 2, $K = 920$ and pitch ratio = 1.4
From equation 3, therefore, in which

$$d = K \times \frac{R}{M}$$

we obtain $920 \times \frac{18}{900} = 18.4$ = diameter in inches.

From the pitch ratio and the diameter the pitch is therefore 25.8 inches.

An 18 inch x 26 inch propeller would therefore be the best suited for your engine and power.

Regarding the water-jacketed carbureter there would be absolutely no benefit in the method of cooling you suggest. The water jacket gave you good results in the winter by merely approximating conditions as they are in the summer, and it is probable that the jacket gives you too great a temperature in the summer. There is usually some adjusting device to regulate the amount of water or to cut it out entirely on such a carbureter, and we suggest that you try it without the water and see if the results are not better.—Ed.]

Seaworthiness of the V-Bottom.

To the Editor of MoToR Boating, Sir:—

Will you kindly advise us if you would consider the 22 ft. V-bottom boat published in the March issue of MoToR Boating, a good design for Hampton Roads (we have it pretty rough here at times) and what speed a 6 h.p. should get out of it.

F. V. L., Hampton, Va.

[We consider the 22-foot V-bottom boat, which appeared in the March issue of MoToR Boating, thoroughly as seaworthy as any run-about of its size and unless you intend to use it in all weathers, it should be thoroughly satisfactory for use in your locality. Of course, there are much more seaworthy models, such as the dory and the whale boat, which we should greatly advise if the boat must be used in bad weather. With the 6 h.p. motor the boat should do in the neighborhood of 10 miles per hour.—Ed.]

Auto Engine for a Cruiser.

To the Editor of MoToR Boating, Sir:—

I am building a cruiser 36 ft. x 10 ft. with a draft of 30 in. It is of the Hand V-bottom type with very easy lines. I have an automobile engine horizontal 2-cylinder 4-cycle, $4\frac{1}{2}$ in. bore by 4 in. stroke, good and reliable, with a heavy flywheel. Could you tell me the h.p. and at what speed should I run the engine.

KENE L. VIGNERD, Evanston, Ill.

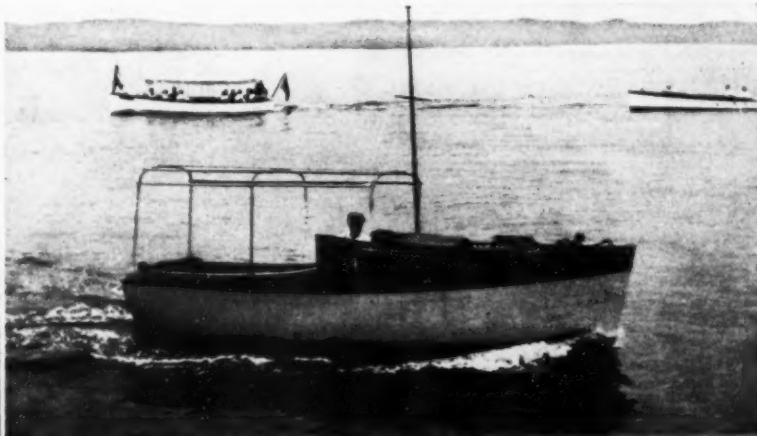
[This engine is not the one we would recommend for the boat, but with a proper propeller it may not give bad results. It should develop about 9 h.p. at 900 r.p.m., probably its most economical speed if an automobile engine; this speed, however, is much too high for good results in a cruiser.—Ed.]

Power for a Thirty-Six Footer.

To the Editor of MoToR Boating, Sir:—

I am having built a raised deck cruiser, 36 ft. over all, 8 ft. beam, compromise stern, very fine entrance and general cleanliness of design under water, consistent with dimensions.

Would a 2-cylinder 4-cycle engine, of $5\frac{1}{4}$ in. bore and 7 in. stroke, weighing 925 lbs.



Margaret, designed and built by J. C. Kraft, of Nyack, N. Y., is only 18 feet in length. She is propelled by a Bridgeport motor of 4 horsepower and makes seven miles an hour.

with reverse gear and rated 15 h.p. at 500 r.p.m. be a rational power plant for this cruiser? I want an engine that will stand the gaff and be dependable, but as speed is a secondary consideration do not care for more h.p. than I need. E. D., Houston, Tex.

[The two-cylinder, four-cycle engine of 15 h.p. that you suggest is an ideal one for your 36 x 8 ft. cruiser. This engine should give you a speed of a little better than 10 miles per hour, which is a good enough cruising speed for anyone. To obtain but a mile or two more per hour would mean a great increase in power and consequently in fuel consumption.—Ed.]

Margaret, An 18-Foot Cruiser.

To the Editor of MoToR BoatinG, Sir:—

I am enclosing photographs of Margaret, a trim little raised deck cruiser owned and built by Mr. J. C. Kraft, of Nyack, N. Y. She is only 18 feet over all by 6 ft. extreme beam, with a draft of 1 ft. 6 in. and 2 ft. freeboard, and is about the smallest cruiser I have seen that is worthy of the name. Her propelling power is a single cylinder Bridgeport motor, of 4 h.p., which gives her a cruising speed of 7 miles an hour. She was built for the purpose of accommodating two or three people on short cruises and for taking out parties on day runs, and to acquire any degree of comfort in so small a craft was a big problem. The motor is installed under a hatch which is removable, giving access to all parts of the power plant. The only part of the engine protruding into the cabin being the flywheel. The coil and battery are mounted inside on the bulkhead, and are thoroughly protected from dampness. Ample locker space is provided under the transoms while in the cockpit is an ice-box. The wheel is mounted on the port side of bulkhead, the other controls and reverse lever being within easy reach of the helmsman. As will be seen from the pictures the boat is in no way a freak, but a very sturdy little craft of quite pleasing proportions. W. KLINE, Woodcliff, N. J.

A Spark Coil Inquiry.

To the Editor of MoToR BoatinG, Sir:—

On page 38 in the July issue is an article "More Power Without Added Cost." How would you wire a K-W spark coil (only one secondary terminal)?

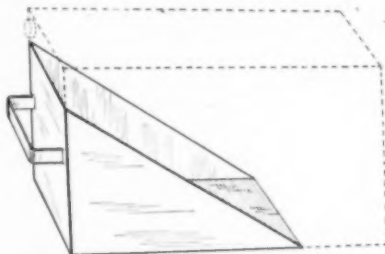
WM. E. SAUNDERS,
Philadelphia, Pa.

[One of the secondary terminals in this coil is grounded on the primary inside the coil box, and therefore, it could not be used in this connection.—Ed.]

A Simple Bailing Scoop.

To the Editor of MoToR BoatinG, Sir:—

During a recent cruise through Long Island Sound our attention was called to a scoop in a fisherman's sharpie which had been made of an old tin can. Quite a clever idea, we



A simple scoop made from an oil can.

thought, and so, for the benefit of your readers, have made a sketch showing what a simple and easy trick it was.

E. W. M., New York City.

Magneto for Lights and Ignition.

To the Editor of MoToR BoatinG, Sir:—

I have a 10-volt (don't know the amperage) magneto. Would this be too strong for common jump-spark coils? If it would run a few lights for night running, could the extra current during the day be used to charge storage battery?

B. J., Hancock, Mich.

[If your magneto is of the direct current type, it is suitable for both lighting and ignition purposes, if used in connection with a storage battery. Used directly, the current would be too great for the ordinary jump-spark coil, but used in connection with storage battery, and an automatic cut-out switch to prevent the latter discharging back through the machine, it should prove thoroughly satisfactory.—Ed.]

Mr. Keith Replies to Criticism of His Article.

To the Editor of MoToR BoatinG, Sir:—

Concerning Mr. W. J. Andrus's letter in re-

gard to my article on the "Dimensions of Motor Boat Propellers," I wish to state that he evidently expects too much from the formula for estimating speed. It is next to an impossibility to obtain a formula for this purpose which takes into account all the variables affecting the speed and power of different boats, and no attempt should be made to do so. The only accurate way of determining the resistance of a boat is by a model basin experiment, and even with this information at hand, it is sometimes hard to predict the exact speed the boat will make under the action of engine and propeller. In the design of motor boat propellers it is fortunately the case that a fairly good estimate of speed is sufficient to calculate diameter and pitch. An error in speed means an error in slip, and when a propeller is working well, the slip can be changed appreciably without affecting the efficiency of the propeller.

The values given for "C" in the formula are simply averages calculated from a number of existing boats of standard types, and thus should enable one to come somewhere near the probable speed for a new boat of standard type. It was remarked in the article that one should determine values of "C" for himself by working the formula backwards, using the data obtained from actual boats similar in type to the one for which the propeller is being designed. The formula is based on the law of comparison of similar boats, and, strictly speaking, is applicable to only such conditions. Also, it should be stated that for any unusual type of boat the speed should be estimated by all the methods possible, and even then it will be none too certain.

HENRY H. W. KEITH, Boston, Mass.

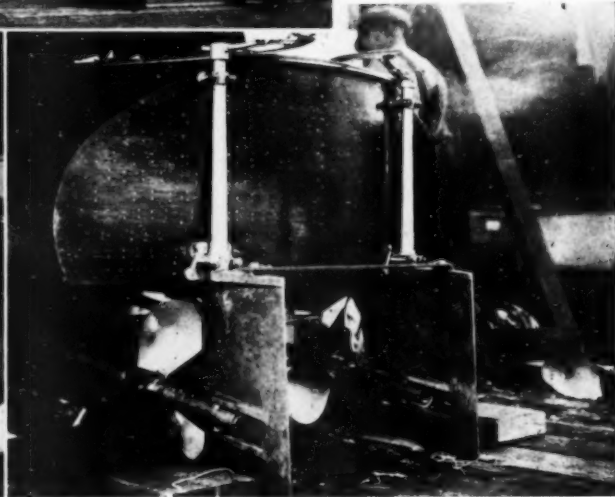
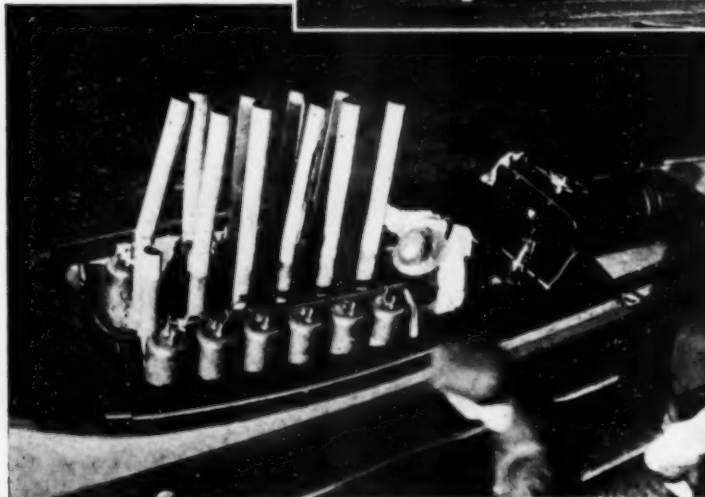
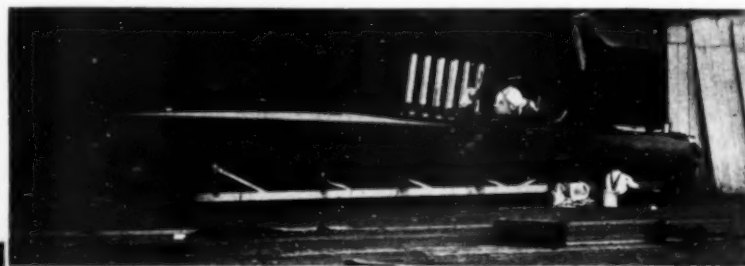
Engine for a 26-Foot Dory.

To the Editor of MoToR BoatinG, Sir:—

Will you please answer a few questions in regard to my boat? I have a Toppan dory, 26 ft. x 6 ft., with a 7 ft. trunk cabin. The draught is about 17 in. I would like to know about what speed a 2-cylinder 10 h.p. engine would drive her, and also which is the best for that style of boat, a make-and-break engine turning at 500 r.p.m. or jump-spark engine turning at 700 rev.

GEORGE C. FARR, New York City.

[The two-cylinder 10 h.p. engine should drive your dory about ten miles an hour. We are inclined to recommend the make-and-break engine turning at 500 r.p.m. in preference to the jump-spark at 700 r.p.m., as we believe the speed of the latter too high for this type of boat.—Ed.]



Vita II was built by the Electric Launch Co., for J. Stuart Blackton. She is a Fauber hydroplane equipped with two Pierce Budd motors, but was not finished in time to be thoroughly tuned up for the Elimination trials.

Among the Clubs



Some Western Cruisers in Seattle Harbor.

The Hudson River Yacht Facing Association's seventh annual regatta was held on September fourth under the auspices of the Yonkers Yacht Club off Glenwood, and was largely attended by both spectators and participants. Interest centered in the power boat races, the feature of which was the speed boat race for the Joseph R. Elliott Cup. It was won by the well known racing craft, Peter Pan IV, owned by W. J. Brainard, of the Columbia Yacht Club of New York, with Elmer L. II of Albany, second. In the free-for-all race for motor boats Elmer L. II finished first and Al Traver, of Poughkeepsie, second; but these boats were disqualified for lack of equipment and the race given to Peter Pan IV, with Tiny Tad, of the New York Motor Boat Club, second. Weather conditions were ideal and there were no accidents to mar the day.

Class 1.—Racing boats, rating over 70; course, twenty miles. Elmer L., Albany Y. C., 54:07; Tiny Tad, New York Motor Boat Club, 1:15:54.

Class 2.—Rating under 70; twenty miles. Peter Pan, Columbia Y. C., 1:04:15; Quo Vadis, Yonkers Y. C., 1:59:52.

Class II.—Cabin boats, rating over 43; ten miles. Seabright, Poughkeepsie Y. C., 56:10; Minnie I., Poughkeepsie Y. C., 1:00:28.

Class G. Special.—Canopy boats. Seabreeze, Poughkeepsie Y. C., 1:11:39; Nyad, Yonkers Y. C., 1:18:39.

Class B.—Cabin boats, rating under 43 and over 30; ten miles. Marie Louise, Shattenuck Y. C., 1:15:27; Grace, Tappan Zee Y. C., 1:16:00.

Class C.—Cabin boats, rating 30 and under, ten miles. Respite, New York Motor Boat Club, 1:20:19; Consort, New York M. B. C., 1:27:23.

Class D.—Open boats, rating over 38. Sea Robin, Tappan Zee Y. C., 43:58; Taxi, Tarrytown Y. C., 1:02:01.

Class E.—Open boats, rating 38 and under; five miles. Bunk III, New York Motor Boat Club, 35:02; Eastern Star, New York Motor Boat Club, 42:46.

Class F.—Joseph R. Elliott Cup; ten miles. Peter Pan IV., Columbia Y. C., 24:53; Elmer L. II., Albany Y. C., 27:45.

The Hudson River Motor Boat Club, New York, held its first long distance race on September 2, the course being to Poughkeepsie and return, 115 nautical miles. There was a good sized entry list in the open and cruising classes which were started at three and half-past five o'clock in the afternoon, respectively. Notable entrants in the cruising class were A. Johnson's In-

evitable, and F. D. Gheen's Kitsix. The latter boat won the event.

Pacific Motor Boat Club, Belvedere, Cal. An inter-club regatta will be held under the auspices of this club on October 1. The race will be held over the regular club course which is about eight and a half miles long, and boats will be handicapped according to previous performances over the course, any boat exceeding the time of this performance by more than one per cent. being disqualified. The first prize will be a cup voluntarily donated by the Michigan Wheel Company, of Grand Rapids.

The Chelsea Boat Club, Norwich, Conn., has enjoyed a prosperous season on the Thames. This club, which was founded thirty-four years ago and was incorporated in 1877, has had a steady and healthy growth since its origin. The coming of the motor boat gave the club a new impetus and in 1907 the club bought a piece of property at Scotch Cap, about four miles above New London, where a bungalow was erected for the convenience of its members. The home club house is located on a valuable piece of property in Norwich and is well equipped with storage and other facilities, but the lower house is found very convenient for picnics, regattas, and as a start for cruising and fishing trips. Regular outings are held here during the summer months. The club flotilla consists of a number of pleasure row boats and racing shells, while 30 canoes and about 25 motor boats are owned by its members and kept at the club house. The officers are: Commodore, Herbert B. Cary; vice-commodore, W. Tyler Olcott; rear-commo-

dore, George A. Richmond; secretary, J. Ralph Howe; treasurer, Walter M. Buckingham.

The Jamaica Bay Yacht Club, Rockaway Beach, L. I., held open house on Labor Day. Racing of both power and sail boats was largely participated in, during the day, and there was dancing in the evening. The club house which was partially destroyed by fire is being rebuilt. The power boat races resulted as follows:

Cabin Cruisers—Start 2:35.			
Boat and Owner.	Finish.	Elapsed time.	Corrected time.
	H.M.S.	H.M.S.	H.M.S.
Carolina, C. M. Mead.....	3:54:00	1:19:00	1:19:00
Argo, E. H. Watson.....	3:54:30	1:19:00	1:19:16
Mori, W. J. Moran.....	Did not finish.		
Mixed Speed Class—Start 2:35.			
Anna H., C. Harnad.....	3:42:00	1:02:00	1:02:00
Phenix, W. Shaw.....	Did not finish.		
Hunting Cabin Class—Start 2:35.			
Onward, J. A. Still.....	4:03:15	1:28:15	1:23:05
Albina, O. Sutter.....	4:20:00	1:45:00	1:45:00
Standing Top Launches—Start 2:40.			
Brisk, J. Yenzler.....	4:16:45	1:36:45	1:36:45
Antoinette, J. McCauler..	Disqualified.		
Special Standing Top Class—Start 2:40.			
Fidelity, Baumgarten.....	3:51:30	1:11:30	1:11:30
Ida May, F. Furman.....	4:42:00	2:02:00	1:57:13
Open Launch Class—Start 2:45.			
May, L. Gally.....	4:00:45	1:15:45	1:15:45
Elsie May, H. Furman.....	4:04:50	1:19:30	1:19:30
Open Launch—Special X Class—Start 2:45.			
Ella & Elsie, J. McDonald	3:50:00	1:14:00	0:14:00
Myro, J. Smith.....	Did not finish.		
Open Special Class—Start 2:45.			
M. C. A., Clyde.....	3:39:00	0:44:00	0:44:00
Hebe, M. Ellis.....	Did not finish.		
Open Special Class—Start 2:45.			
Smarty, M. Hynes.....	4:20:00	1:04:30	1:04:30
Jim, S. Jones.....	Did not finish.		

City Point Yacht Club, New Haven, Conn. The second leg on the trophy offered by the New Haven Journal Courier for a motor boat race from New Haven across the Sound to Port Jefferson and return was won on August 20 by the Rambler, owned by John Guest, of the City Point Yacht Club. Lady Ellen, owned by J. H. McNamara, of the Waucoma Yacht Club, captured second place. Dagny, owned by H. M. Anderson, gained third place by



A part of the course on the Mississippi where St. Louis' first speed boat races will be held under the auspices of the Carondelet Motor Boat Club.

with reverse gear and rated 15 h.p. at 500 r.p.m. be a rational power plant for this cruiser? I want an engine that will stand the gaff and be dependable, but as speed is a secondary consideration do not care for more h.p. than I need. E. D., Houston, Tex.

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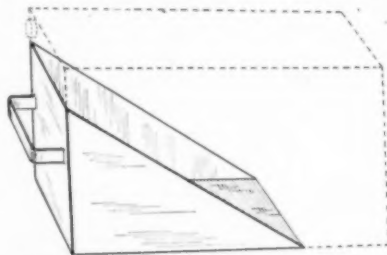
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Magneto for Lights and Ignition.

To the Editor of MoToR BoatinG, Sir:—

I have a 10-volt (don't know the amperage) magneto. Would this be too strong for common jump-spark coils? If it would run a few lights for night running, could the extra current during the day be used to charge storage battery?

B. J., Hancock, Mich.

[If your magneto is of the direct current type, it is suitable for both lighting and ignition purposes, if used in connection with a storage battery. Used directly, the current would be too great for the ordinary jump-spark coil, but used in connection with storage battery, and an automatic cut-out switch to prevent the latter discharging back through the machine, it should prove thoroughly satisfactory.—Ed.]

Mr. Keith Replies to Criticism of His Article.

To the Editor of MoToR BoatinG, Sir:—

Concerning Mr. W. J. Andrus's letter in re-

gard to my article on the "Dimensions of Motor Boat Propellers," I wish to state that he evidently expects too much from the formula for estimating speed. It is next to an impossibility to obtain a formula for this purpose which takes into account all the variables affecting the speed and power of different boats, and no attempt should be made to do so. The only accurate way of determining the resistance of a boat is by a model basin experiment, and even with this information at hand, it is sometimes hard to predict the exact speed the boat will make under the action of engine and propeller. In the design of motor boat propellers it is fortunately the case that a fairly good estimate of speed is sufficient to calculate diameter and pitch. An error in speed means an error in slip, and when a propeller is working well, the slip can be changed appreciably without affecting the efficiency of the propeller.

The values given for "C" in the formula are simply averages calculated from a number of existing boats of standard types, and thus should enable one to come somewhere near the probable speed for a new boat of standard type. It was remarked in the article that one should determine values of "C" for himself by working the formula backwards, using the data obtained from actual boats similar in type to the one for which the propeller is being designed. The formula is based on the law of comparison of similar boats, and, strictly speaking, is applicable to only such conditions. Also, it should be stated that for any unusual type of boat the speed should be estimated by all the methods possible, and even then it will be none too certain.

HENRY H. W. KEITH, Boston, Mass.

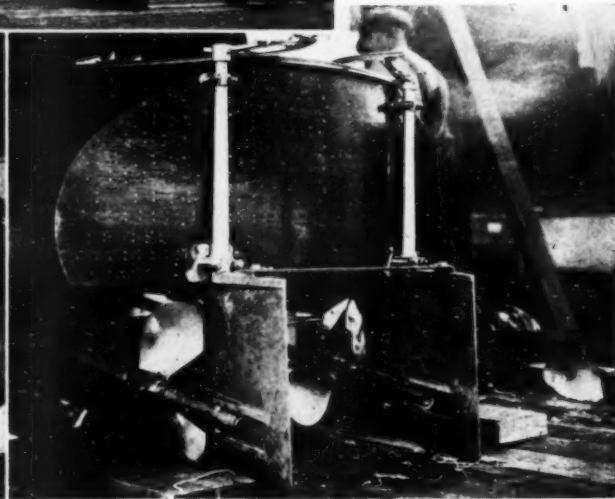
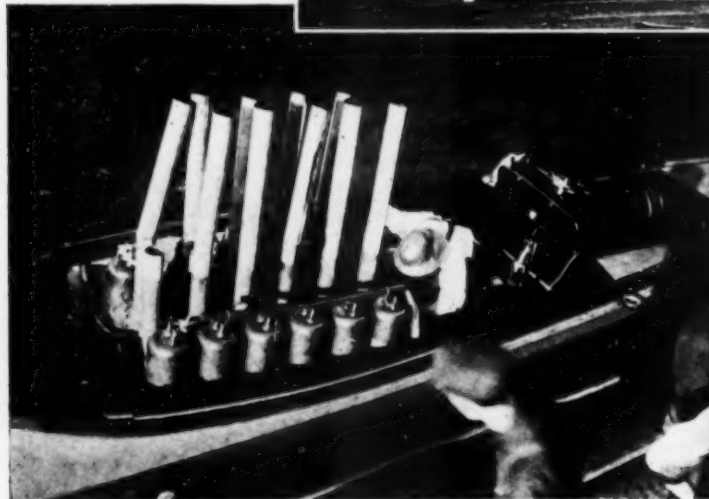
Engine for a 26-Foot Dory.

To the Editor of MoToR BoatinG, Sir:—

Will you please answer a few questions in regard to my boat? I have a Toppan dory, 26 ft. x 6 ft., with a 7 ft. trunk cabin. The draught is about 17 in. I would like to know about what speed a 2-cylinder 10 h.p. engine would drive her, and also which is the best for that style of boat, a make-and-break engine turning at 500 r.p.m. or jump-spark engine turning at 700 rev.

GEORGE C. FARR, New York City.

[The two-cylinder 10 h.p. engine should drive your dory about ten miles an hour. We are inclined to recommend the make-and-break engine turning at 500 r.p.m. in preference to the jump-spark at 700 r.p.m., as we believe the speed of the latter too high for this type of boat.—Ed.]



Vita II was built by the Electric Launch Co., for J. Stuart Blackton. She is a Fauber hydroplane equipped with two Pierce Budd motors, but was not finished in time to be thoroughly tuned up for the Elimination trials.

Among the Clubs



Some Western Cruisers in Seattle Harbor.

The Hudson River Yacht Racing Association's seventh annual regatta was held on September fourth under the auspices of the Yonkers Yacht Club off Glenwood, and was largely attended by both spectators and participants. Interest centered in the power boat races, the feature of which was the speed boat race for the Joseph R. Elliott Cup. It was won by the well known racing craft, Peter Pan IV, owned by W. J. Brainard, of the Columbia Yacht Club of New York, with Elmer L. II of Albany, second. In the free-for-all race for motor boats Elmer L. II finished first and Al Traver, of Poughkeepsie, second; but these boats were disqualified for lack of equipment and the race given to Peter Pan IV, with Tiny Tad, of the New York Motor Boat Club, second. Weather conditions were ideal and there were no accidents to mar the day.

Class 1.—Racing boats, rating over 70; course, twenty miles. Elmer L., Albany Y. C., 54:07; Tiny Tad, New York Motor Boat Club, 1:15:54.

Class 2.—Rating under 70; twenty miles. Peter Pan, Columbia Y. C., 1:04:15; Quo Vadis, Yonkers Y. C., 1:59:52.

Class H.—Cabin boats, rating over 43; ten miles. Seabright, Poughkeepsie Y. C., 56:10; Minnie L., Poughkeepsie Y. C., 1:00:28.

Class G.—Special.—Canopy boats. Seabreeze, Poughkeepsie Y. C., 1:11:59; Nyad, Yonkers Y. C., 1:18:39.

Class B.—Cabin boats, rating under 43 and over 39; ten miles. Marie Louise, Shattuck Y. C., 1:15:27; Grace, Tappan Zee Y. C., 1:16:00.

Class C.—Cabin boats, rating 39 and under, ten miles. Respite, New York Motor Boat Club, 1:20:19; Consort, New York M. B. C., 1:27:23.

Class D.—Open boats, rating over 38. Sea Robin, Tappan Zee Y. C., 43:58; Taxi, Tarrytown Y. C., 1:02:01.

Class E.—Open boats, rating 38 and under; five miles. Bunk III, New York Motor Boat Club, 35:02; Eastern Star, New York Motor Boat Club, 42:46.

Class F.—Joseph R. Elliott Cup; ten miles. Peter Pan IV., Columbia Y. C., 24:53; Elmer L. II., Albany Y. C., 27:45.

The Hudson River Motor Boat Club, New York, held its first long distance race on September 2, the course being to Poughkeepsie and return, 115 nautical miles. There was a good sized entry list in the open and cruising classes which were started at three and half-past five o'clock in the afternoon, respectively. Notable entrants in the cruising class were A. Johnson's In-

evitable, and F. D. Gheen's Kitsix. The latter boat won the event.

Pacific Motor Boat Club, Belvedere, Cal. An inter-club regatta will be held under the auspices of this club on October 1. The race will be held over the regular club course which is about eight and a half miles long, and boats will be handicapped according to previous performances over the course, any boat exceeding the time of this performance by more than one per cent. being disqualified. The first prize will be a cup voluntarily donated by the Michigan Wheel Company, of Grand Rapids.

The Chelsea Boat Club, Norwich, Conn., has enjoyed a prosperous season on the Thames. This club, which was founded thirty-four years ago and was incorporated in 1877, has had a steady and healthy growth since its origin. The coming of the motor boat gave the club a new impetus and in 1907 the club bought a piece of property at Scotch Cap, about four miles above New London, where a bungalow was erected for the convenience of its members. The home club house is located on a valuable piece of property in Norwich and is well equipped with storage and other facilities, but the lower house is found very convenient for picnics, regattas, and as a start for cruising and fishing trips. Regular outings are held here during the summer months. The club flotilla consists of a number of pleasure row boats and racing shells, while 30 canoes and about 25 motor boats are owned by its members and kept at the club house. The officers are: Commodore, Herbert B. Cary; vice-commodore, W. Tyler Olcott; rear-commo-

dore, George A. Richmond; secretary, J. Ralph Howe; treasurer, Walter M. Buckingham.

The Jamaica Bay Yacht Club, Rockaway Beach, L. I., held open house on Labor Day. Racing of both power and sail boats was largely participated in, during the day, and there was dancing in the evening. The club house which was partially destroyed by fire is being rebuilt. The power boat races resulted as follows:

Cabin Cruisers—Start 2:35.			
Boat and Owner.	Finish.	Elapsed time.	Corrected time.
Carolina, C. M. Mead.....	H.M.S. 3:54:00	H.M.S. 1:19:00	H.M.S. 1:19:00
Argo, E. H. Watson.....	3:54:30	1:19:00	1:19:16
Mori, W. J. Moran.....	Did not finish.		
Mixed Speed Class—Start 2:35.			
Anna H. C. Harnad.....	3:42:00	1:02:00	1:02:00
Phenix, W. Shaw.....	Did not finish.		
Hunting Cabin Class—Start 2:35.			
Onward, J. A. Still.....	4:03:15	1:28:15	1:23:05
Albina, O. Sutter.....	4:20:00	1:45:00	1:45:00
Standing Top Launches—Start 2:40.			
Brisk, J. Yenzer.....	4:16:45	1:36:45	1:36:45
Antoinette, J. McCauler..	Disqualified.		
Special Standing Top Class—Start 2:40.			
Fidelity, Baumgarten.....	3:51:30	1:11:30	1:11:30
Ida May, F. Furman.....	4:42:00	2:02:00	1:57:13
Open Launch Class—Start 2:45.			
May, L. Gally.....	4:00:45	1:15:45	1:15:45
Elsie May, H. Furman.....	4:04:50	1:19:30	1:19:30
Open Launch—Special X Class—Start 2:45.			
Ella & Elsie, J. McDonald	3:50:00	1:14:00	0:14:00
Myro, J. Smith.....	Did not finish.		
Open Special Class—Start 2:45.			
M. C. A., Clyde.....	3:39:00	0:44:00	0:44:00
Hebe, M. Ellis.....	Did not finish.		
Open Special Class—Start 2:45.			
Smarty, M. Hynes.....	4:20:00	1:04:30	1:04:30
Jim, S. Jones.....	Did not finish.		

City Point Yacht Club, New Haven, Conn. The second leg on the trophy offered by the New Haven Journal Courier for a motor boat race from New Haven across the Sound to Port Jefferson and return was won on August 20 by the Rambler, owned by John Guest, of the City Point Yacht Club. Lady Ellen, owned by J. H. McNamara, of the Waucoma Yacht Club, captured second place. Dagny, owned by H. M. Anderson, gained third place by



A part of the course on the Mississippi where St. Louis' first speed boat races will be held under the auspices of the Carondelet Motor Boat Club.

the narrow margin of eight seconds over Susie R., belonging to W. R. Rice. The elapsed time for the winners over the fifty nautical miles was: Rambler, 7:21:30; Lady Ellen, 5:03:31; Dagny, 6:56:36; Susie, 6:58:11; Ahoy (scratch boat), 5:36:54; Trixie, 6:08:45; Rosemary, 6:11:02; Clarence, 6:31:40; Flora Mae, 6:43:14.

The Maysville Boat Club, Maysville, Ky., has secured for its home a large house boat 55 x 12, with a commodious cabin and other quarters. It will be improved by the club, and made into a comfortable club house for the club members and visitors.

The Taunton Yacht Club, Taunton, Mass., were the promoters of an ocean motor boat race starting from Narragansett Bay at 6 a. m., August 26th. The course was from Common Sense Point, Island of Rhode Island to Oak Bluffs, Martha's Vineyard. Eight boats competed for the prizes, which were several. Half Moon, owned by Dr. G. W. Van Benschoten, of Providence, won, finishing fourth, but winning with her time allowance. Fulmar, owned by Joseph Williams, of Taunton, won second prize, and Gertrude, owned by L. M. Wetherell, of Taunton, captured third prize.

The Lake Bomoseen Yacht Club, Rutland, Vt., held some pretty motor boat races in connection with its sixth annual regatta. A parade with prizes for the best decorated boats in line was also held. The results of the races are as follows:

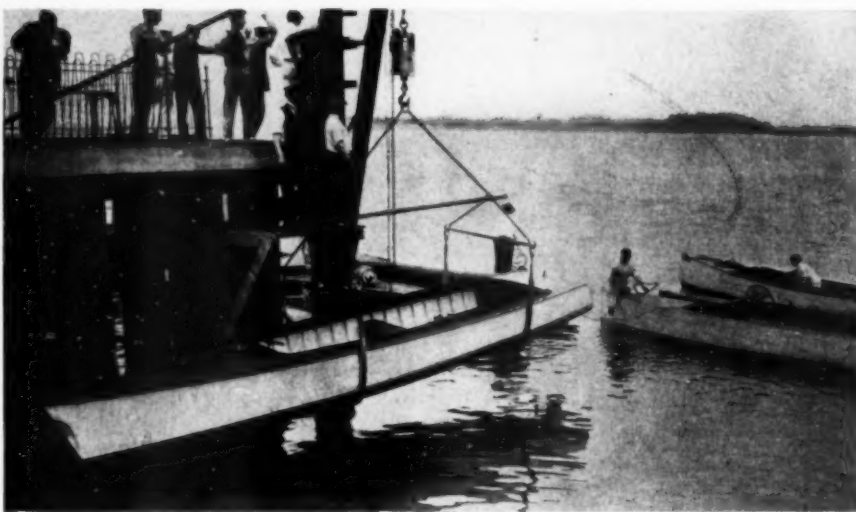
	Elapsed Time.	Corrected Time.
Class A, Three mile course. First, C. C. 22.10	21.10	
Second, Addison	22.11	22.11
Class B, Three mile course. First, Arrow.	19.56	19.56
Second, Bob Roy	20.53	20.53
Class C, Three mile course. First, Stoddard	11.56	7.56
Second, J. H. L.	17.05	11.05

The Chelsea Yacht Club, Atlantic City, N. J., formally opened its new \$30,000 club house on August 12.

The Clayton Yacht Club, Clayton, N. Y., has elected the following officers: Commodore, Dr. James H. Stebbins, Jr.; vice-commodore, James P. Gillespie; rear-commodore, Harry N. Denny; chaplain, Rev. P. S. Garand; treasurer, E. Serrell; secretary-treasurer, Dr. W. J. Ross. Some interesting motor boat races were held over the club course on August 22, the races for St. Lawrence skiffs being the feature.

The Ocean Yacht Club, Stapleton, N. Y., have recently opened a new club house. This club is over twenty years old and is in more flourishing condition than ever before.

The Harlem Yacht Club, City Island, N. Y., have for a number of years held races for sailing craft from Execution Light to Stratford Shoals Light and return. This year a power boat race was inaugurated to be run over the same course. It was a night run, the start being at 6 p. m., August 10th. At the finish Melrah, Respite and Elmo II were only



The method of weighing for handicapping, used with great success by the Delaware River Club.

a few seconds apart. The course was 61 miles. The summary follows:

	Elapsed Time.	Corrected Time.
Ruth II, W. F. Burroughs	8:51:10	5:26:59
Elmo II, F. B. Giles	8:14:00	6:07:06
Melrah, Harry Merz	7:57:07	6:07:16
Respite, V. D. Pedersen	8:08:15	6:07:33
Inevitable, H. A. Johnson	6:27:35	6:27:35
Excelsior, T. Trolsen	7:40:05	6:33:27
Victoria III, Ernest Pengue	8:27:25	6:43:18
Heien II, G. Gregory	8:21:15	6:44:30
Marie, B. J. Brenzinger	8:35:35	8:01:32

Flat Rock Motor Boat Club, Philadelphia, Penn. Motor boating has come into greater vogue than ever on the upper Schuylkill, and where a few years ago nothing in the way of pleasure craft could have been found on its surface, it is now dotted with large numbers of motor boats. The Flat Rock Motor Boat Club came next, and on August 10th was held the first speed boat race for motor boats. The course was twenty miles in length, eight times around a two and a half mile stretch. The entrants were Joker from Camden, Zip III from Woodbury, Pee Vee Hoo from Norristown, and Ace of Hearts from Norristown. Following is the summary of the results:

Boat.	Time Allowance.	Elapsed Time.	Corrected Time.
Joker	17:55	50:53	32:48
Zip III	1:23	41:33	40:10
Pee Vee Hoo	scratch	43:16	43:16
Ace of Hearts	12:01	1:00:55	48:54

Zip III, it will be noted, covered the course in the fastest time. She belongs to Thomas W. Hutchinson, of Woodbury, New Jersey, is 28 feet long and is equipped with a 130 horsepower Sterling. She is a recognized champion of the Delaware. Photographs of some of the competing boats are shown on page 33.

The Carondelet Motor Boat Club, St. Louis, Mo., will hold its first annual speed boat races on September 30th and October 1st, on a fine course recently surveyed on the Mississippi River. It will be the first races of speed boats of the first class at St. Louis. \$2,000 in cash has been raised without difficulty for the big event, and assurances from enthusiasts indicate that \$1,000 more will be forthcoming. It is expected that a number of the world's fastest motor boats will take part, and many members of the Mississippi Valley

Power Boat Association and the Western Power Boat Association have signified their intention of entering.

The Inter-Lake Yacht Racing Association, New York, have held some interesting motor boat races the past season. Races were held on Decoration Day, Independence Day, Labor Day, and at other times with marked success. The racing was originally confined to sailing craft, but lately motor boat races have also been held. The following nine clubs are members of the association: Geneva Yacht & Motor Boat Club, Geneva, N. Y.; Lakeside Yacht Club, Ithaca, N. Y.; Owaseo Yacht Club, Auburn, N. Y.; Syracuse Yacht Club, Syracuse, N. Y.; Cayuga Lake Yacht Club, Kidders, N. Y.; Skaneateles Yacht Club, Skanateles, N. Y.; Shad Hall Yacht Club, Ithaca, N. Y.; Kenka Yacht Club, Penn Yan, N. Y.; Frontenac Yacht Club, Union Springs, N. Y.

The Pistakee Bay Yacht Club, McHenry, Ill. "Venetian Night" at Pistakee Lake and Bay this year was as beautiful as the fairest evening in old Venice itself. The lake and bay were beautifully lined with hundreds of fairy lamps, Chinese lanterns and electric lights, which were used this year for the first time. There were twenty decorated motor boats that slowly skirted the edge of the waters. All the cottages were decorated prettier than ever before. Commodore Pugh gave a reception and ball at about the same time.

The Hudson River Motor Boat Club, New York City, gave, on August 20, a unique race. It was called a "ladies' consistency race." The ladies of the club steered the boats three times around a five-mile triangle, and the pilot of the boat that differed least between its best and worst time around the triangle received a \$25 ladies' hat for a prize. This was Miss H. Mulligan steering Bunk III, the difference being but 45 seconds. Miss E. Haas, in Bunny, came next with a difference of 49 seconds, and Miss Harrington, in Mitcham, was third, with a difference of 1 minute 40 seconds. There were eight entries.

The Long Beach Motor Boat Club, Long Beach, N. Y., in conjunction with the Hempstead Bay Yacht Club, the Keystone Yacht Club, and the Nassau Yacht Club, held some interesting motor boat races on August 26 upon the waters of Hempstead Bay. The winner was Rocket, owned by Henry B. Simmons, which beat Big Balsam by five minutes. The race was run under the A. P. B. A. rules for rating.

The Cambridge Yacht Club, Cambridge, Md., has attracted notice through a novel idea of its commodore, Alfred I. DuPont, for encouraging the construction of speed boat hulls. He has announced that he will give to the member of the club who builds the fastest hull a high power speed engine of good make. The

(Continued on page 62.)



Inevitable and Kitsix, participants in the Hudson River Motor Boat Club's Poughkeepsie Race.

New Things for Motor Boatmen.

New Attachments and Accessories That Are Offered to the Man With a Boat.
The Month's Production of Devices Designed as Aids to Motor Boating.

[Under this heading will appear each month descriptions and, whenever possible, illustrations of the various devices designed to add to the pleasure and comfort of motor boating which have been brought out since the previous issue. It should be kept in mind that the department in any one issue is, as it were, only one month's installment of the many useful things on the market, and that it will be well to consult the previous issues of MOTOR BOATING, which will form, together, a very complete illustrated directory of the things the motor boatman needs. —In writing the makers of the articles shown, if our readers will mention MOTOR BOATING they will receive special attention.]

Delco Starting and Lighting System.

A combined starting and lighting system for use in connection with the ignition as well has just been introduced by the Dayton Engineering Laboratories Company, of Dayton, O., consisting of two units, a motor generator and a storage battery. A cutout, controlling switches and a regulator are added. The motor generator is so attached to the engine that it can be connected to the flywheel of the engine and converted into a motor to supply power for starting by means of a series of reducing gears. A storage battery supplies a current at 24 volts for running this motor. When the engine is started the motor is disconnected from its geared connection with the flywheel and is automatically connected to the magneto shaft of the engine by means of a ratchet clutch, driving it at engine speed, and the electrical connections are so automatically rearranged that the machine is converted into a shunt generator which may be used to charge the storage battery both for the ignition and for the lighting system. * * *

The Extension Primer.

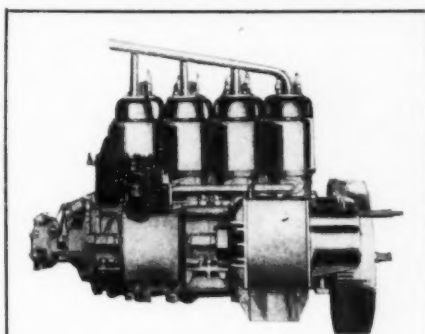
A primer which is designed to deliver gasoline at the end of the spark plug where it can be easily fired is being manufactured by the Extension Primer Company, of St. Louis, and as the illustration shows, the gasoline is admitted through a by-pass near the shoulder of the spark plug. The entire device shown is designed to be screwed into the spark plug hole and the spark plug is then screwed into it. The price of the device is \$1 or \$3.75 for a set of four. * * *

The Triplex Block.

Since the new ruling of the American Power Boat Association regarding the weighing of all racing craft, the Yale & Towne Manufacturing Co., of 9 Murray St., New York City, have adopted a combination of their Triplex Block and a set of Fairbanks scales, with which a boat of any size up to 40 tons can be raised very easily by four men. A boat of 20 tons can be raised by two men with a pull of 135 pounds upon each block. The illustration shows the manner in which the scale is combined with the block, and for a light boat one block is sufficient to raise it. The scales are balanced with a single point suspension and can be attached or detached easily. The price of the Triplex Block alone, without the scale, in the two-ton size, which is sufficient to raise the ordinary type of motor boat less than 30 feet in length, is \$56, and the boat can be raised an extreme hoist of nine feet. A space of 24 inches is required between the upper hook and the lower hook when the block is raised to its extreme limit. One man can easily lift a boat with a block of this size. * * *

Dunn Semi-Dry Cells.

A dry cell made upon a principle different from the ordinary type and which is said to give twice the service is being manufactured by the Semi-Dry Battery Co., 25 Broad St., New York City. The active material in this cell is the Dunn Electrolytic Fluid, which is very sensitive, but will not work unless used with a filler which is chemically pure. The result is that the finished cell does not give out until completely exhausted and it will not dry out. Provided they are not short-circuited these cells will not deteriorate and they will recuperate between periods of use to within a small percentage of their previous strength. The Dunn battery, for ignition use, is made upon the same principle. The cells range in price from 30 cents to \$1.25 and the batteries \$2.40 to \$3.00.



Delco starting and lighting system attached to a motor.



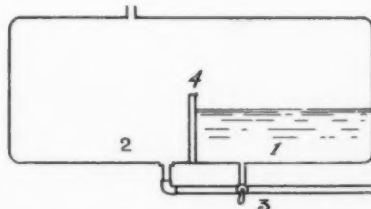
The Cowles Extension Primer.



Triplex Block with Fairbanks scale attached.



The Ten-in-One Pocket Tool.



The "Widow's Cruse" Tank.

Ex-Tex Raincoat.

A raincoat made of a new fabric which is proof against oil, gasoline, etc., as well as against rain, has just been placed upon the market by the Brown & Williams Company, 253 Broadway, New York City. This type of coat overcomes the only objection to the ordinary rubberized raincoat which has proved so popular, since the Ex-Tex does not disintegrate upon contact with oil or gasoline and it can be cleaned with benzine and pressed with a hot iron just as can be done with a suit of clothes. The new fabric has the appearance of a double-texture raincoat and is well-made with special French seams. It is made in two grades selling at \$54 and \$63 per dozen, and in two shades, tan and olive. The ordinary length is 52 inches and it is made for men in sizes from 34 to 44, special lengths and sizes selling for 50 cents a garment additional. * * *

Cello Adapter.

The Cello Adapter, made by the A. S. Campbell Co., 284 Commercial St., Boston, may be attached very easily to any acetylene searchlight, making an efficient electric searchlight of it. The whole is mounted upon a rigid bracket which permits of no vibration and when once attached it requires no attention. The adapter is first fitted over the burner and after all adjustments are made the reflector is put in place. The reflector used is of a high grade, and the same tungsten bulbs and waterproof plug connections are used as in the regular electric searchlight. The attachment will fit a lamp of any size and gives very efficient service under all conditions. The outfit includes a reflector, adapter, 4 c. p., 6-volt bulb with two feet of cord and a special attachment. Bulbs of any desired voltage and candlepower can be furnished. * * *

Ten-In-One Pocket Tool.

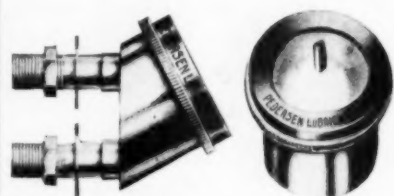
The Swedish American Telephone Company, of Chicago, have brought out the neat little pocket tool illustrated upon this page. The tool is made of steel, heavily nicked, and is about four inches in length and small enough to be carried in the pocket without inconvenience. It embodies in its construction an alligator wrench, an adjustable nut wrench, key for Prest-O-Lite tank, screw driver, tack or staple puller, file, bottle opener, rule, agate inch and wire peeler. * * *

The "Widow's Cruse" Tank.

We are showing upon this page a diagram of a gasoline tank equipped to serve as an emergency supply tank as well, by Paul W. Morris, of Washington Park, Bridgeport, Conn. The device has been patented and it is expected to be upon the market within a few days. The diagram shows the operation of the device, No. 4 being a high partition wall across the bottom of the tank. There are two outlet pipes, one on each side of this wall, connecting with the main discharge pipe by a switch cock (3). This is a two-way plug in a three-way cock and can, therefore, draw from only one outlet at a time. When the switch cock is turned to draw the reserve supply of gasoline in one compartment, the outlet from the other compartment is automatically closed, so that one side of the partition is always acting as a reserve supply, both, however, being filled from the same opening. The operator simply turns on the reserve supply when needed, and when filling his tank he must of necessity replenish his reserve supply as well. The switch cock controlling the compartment from which the gasoline supply is taken can be placed in any convenient spot, even on the coaming or bulkhead if desired.

Pedersen Oiling System.

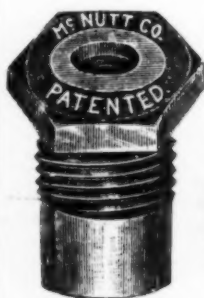
The Pedersen Lubricator Company, 636-644 First Ave., New York City, have brought out a new type of oiling system that is readily applied to a low-priced motor and which will greatly simplify the oiling problem. The device consists of a small rotary pump, indicator and oil tank, the pump being mounted on the end of the timer shaft and drawing the oil from the tank which is placed by the side of the motor. From here the oil is forced up to the indicator on the bulkhead, which is provided with a regulating screw, and from the indicator the oil is led down to the crank case, the amount necessary for keeping a constant level being regulated by the adjusting screw. The tank has a capacity sufficient for several hundred miles, and when the necessary supply of oil is once regulated no further attention is necessary. Another ingenious arrangement in connection with this system is the provision for oiling the commutator. The end of the stuffing box nut extends through the cover and by turning this nut up only moderately tight a slight leakage is allowed which keeps the commutator well lubricated. The price varies according to the size of the system.



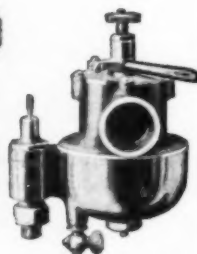
Side and Front View of the Pedersen Lubricating System.



The Alco Doublelight DeLuxe.



Automatic Safety Bung.



The New Krice Carbureter.

Automatic Safety Bung.

An automatic and fusible safety bung to be used in iron drums containing gasoline and in gasoline tanks where the fuel is stored in large quantities has been placed upon the market by the McNutt Can Company, 352 Pearl St., New York City, the manufacturers of the McNutt safety gasoline can which is used to a considerable extent upon Government boats. This fusible bung has lately been adopted by the United States Navy and is said to be the only equipment with which the Government will receive dangerous inflammable liquids in tin cans. The device is similar in construction to the safety can made by the same company and is considered an absolute preventive of danger from gasoline. The price is \$2 each, although they are sold in large lots at special prices.

Anderson Glass-and-Steel Spark Plug.

This plug is made by the Anderson Spark Plug Co., of Washington, D. C., and is being offered in a new model with a small diameter shell and a mica stem. This new type is known as Model B, although Model A is still manufactured. The feature of these plugs is the glass insulation, the glass being welded to the steel, making an exceptionally strong plug, possessing unusual features. The improvement in model B does not involve any essential point in the operation of the plug, but goes mainly to the form of the outer insulation of the central electrode or stem, to avoid the use of the larger shell necessary in model A. The basic principle of glass insulation welded to the steel shell and central electrode into one integral mass still prevails, and the function of providing a window to the engine is still maintained. The flash of each explosion is clearly seen through the glass. The price of either model A or model B is \$1.50.

Catelain Hose Clamp.

A hose clamp which is easily adjusted to fit a hose of any size, either round or oblong, is being manufactured by Andre Catelain, 1446 Indiana Ave., Chicago. This device can be put on and taken off as desired without difficulty and without in any way injuring the clamp or the hose. The clamp is made of a brass band, $\frac{3}{4}$ of an inch in width, and drawn tight with a T-head screw fitted with a wing nut and bushing. Each clamp may be formed by the user to fit the hose with which it is to be used, the T-head of the screw being placed in the proper notch in the band to give the proper diameter of clamp. The extra length of the band is folded over when not used. Both ends of the band are treated in this way, this arrangement giving a wide range of diameters upon which the same clamp can be used. The clamp is made in three sizes, for hose diameters up to $1\frac{1}{2}$, $2\frac{1}{2}$ and 4 inches, and retails at 25, 27 and 30 cents respectively. Special sizes may be obtained to order.

Alco Doublelight DeLuxe.

The American Lava Company, of Chattanooga, Tenn., have brought out a new burner known as the Doublelight, an illustration of which is shown upon this page. The idea of this burner is to furnish two flames both of which shall be in focus with the center of the reflector so that the burner may be mounted in a standard pillar so that it may be applied to any standard lamp by any car owner. The burners are furnished in any desired gas capacity per flame, such as $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ or 1 foot and are made of imported lava, which lends itself to more accurate and uniform work. The burners are mounted in a hexagon base with DeLuxe pillars, the advantage of which is that they may be easily installed in the lamp either with a wrench or with pliers, and add to the appearance of the lamp when installed. As will be noticed from the illustration, the Doublelight burner is in reality a combination of two of the ordinary type, the central projection containing two holes through which the gas can escape instead of one.

A New Krice Carbureter.

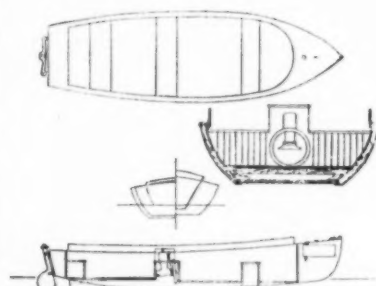
A new carbureter in $\frac{3}{4}$ -inch size has just been brought out by the Krice Carbureter Company, 919 Larned St., East, Detroit, Mich., in response to the demand for a small size for marine engines of low power, such as are placed in canoes and skiffs. It is said that in recent tests completed by the company to determine the efficiency of this new carbureter, a greater proportion of power has been found than in the carbureters of the larger sizes. The $\frac{3}{4}$ -inch size measures in height over all, $4\frac{7}{8}$ inches and its greatest width is $3\frac{3}{4}$ inches. Its weight, complete, ready for installation is $2\frac{1}{2}$ pounds.

The Sportsman's Fishing Boat.

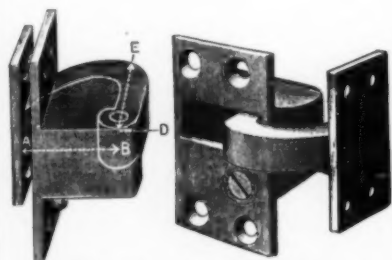
The boat whose designs are shown has been brought out by the Cape Cod Power Dory Company, of Wareham, Mass., the plans being drawn by Gurney, the designer of the Cape Cod Power Dory. It is 16 feet in length over all, with a four-foot beam and a draft of about 12 inches. It weighs 700 pounds and is planked with cedar over an oak frame and secured with galvanized fastenings. The boat is designed to meet the demand for a craft of this type, and while it is built primarily for sportsmen's use, it is also adapted to be used as a tender or as a small family boat. It will seat six people comfortably and can be run up on a shore or beach without damage. The propeller is well aft to facilitate clearing of weeds and the rudder is of such shape as to clear itself easily. The motor is housed in by the cross seat yet is easily accessible in case of repairs. The seats are high and wide and the forward seat is boxed up to form a well where bait and fish can be kept alive. The after seat forms a large locker and the middle seat is also boxed up. The boat is powered with either a Palmer or a Ferro motor.

Woodruff Concealed Hinge.

The Walter W. Woodruff & Sons Company, of Mt. Carmel, Conn., have just placed upon the market a new type of concealed hinge for the motor compartment of boats where it is not desirable to make use of a hinge that shows upon the outside. The hinge is provided with a case cast integral with the face plate, making a smooth case which can be fitted into the pillar very easily and allowing no space for water to collect and injure the parts. The mechanism of the hinge is, however, in a waterproof case and the working parts are submitted to a process making them rust-proof, so there is no danger of the parts becoming damaged. The hinge is made of a high grade of malleable iron and is detachable. It may be had in any desired material or finish. The carbureter is made similar to the ordinary type of the Krice product and can be attached to the motor and the gasoline feed very easily. A small drain cock is located below the float chamber and the throttle is operated by a lever placed in a horizontal position at the top of the instrument.

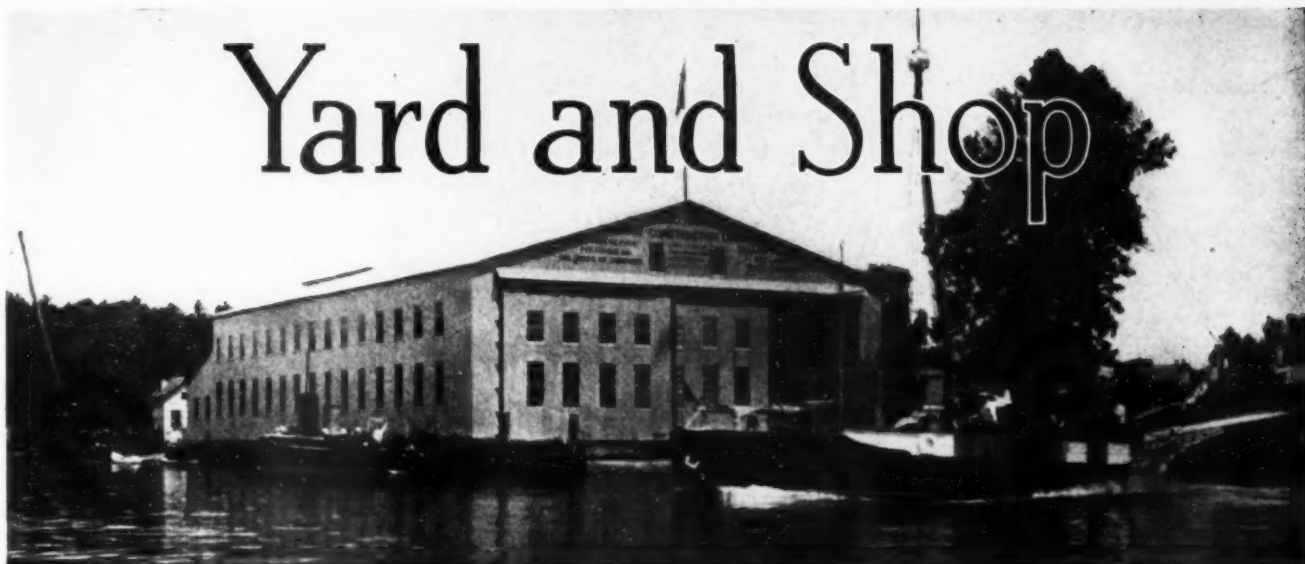


Designs of the Sportsman's Fishing Boat.



The Woodruff Concealed Hinge.

Yard and Shop



The Home of the Salisbury Marine Construction Company, Salisbury, Md.

The Mississippi Valley Show.

The first motor boat show of the season will be the Mississippi Valley Motor Boat Show, to take place in the St. Louis Coliseum, the week of December 11th. It will be the first motor boat show ever held in that section of the country. Believing that most shows have been held somewhat too late to derive the best of results, and in order to prevent any conflict with the dates of the Eastern shows, the Committee have arranged the dates for this show early enough to permit every exhibitor to fill all orders and make prompt deliveries before the opening of the season. The St. Louis show is under the sole direction of the Mississippi Power Boat Association, and all profits accruing from same will be used by the Association in promoting the greater use of motor boats on the Mississippi River and its tributaries.



A Ferro marine motor doing land transportation service.

Concerning Sea Bird's Ignition System.

Anent the letters of Mr. Goodwin of the Sea Bird published in the August and September numbers of *MoToR BoatinG*, The Electric Goods Mfg. Co. have sent us the following letter, which we take pleasure in publishing:

CANTON, MASS., Sept. 11, 1911.

Is it possible to rectify in the coming issue, statement made by Mr. Goodwin of the Sea

Bird in the September issue, page 41, as follows:

"Sunday the weather was fine again. . . . That night we had trouble with the ignition, which has been bothering us more or less ever since." This trouble was found to exist, not in the ignition, but in the gasoline supply. We quote from September *Rudder*, page 100, 3d paragraph: "We had considerable fuel trou-

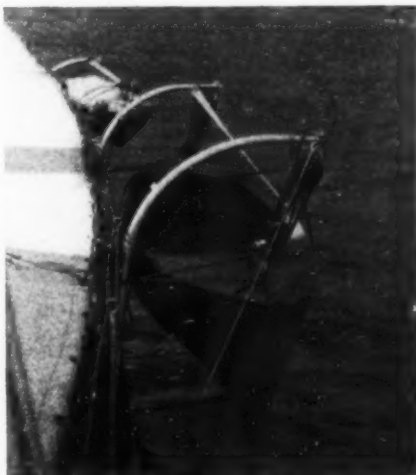
under water for days at a time, as there is an opening in the deck right over the head of the engine and this was kept open for the purpose of ventilation, consequently the rain and spray were continually falling on the plug, but without the slightest harm being done to it."

Very truly yours,

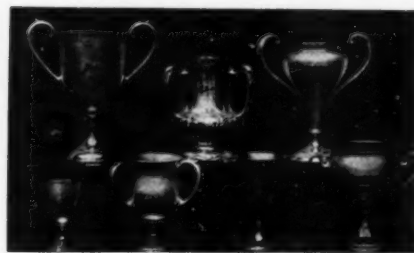
ELECTRIC GOODS MFG. COMPANY.

Mickelson Marine Motors.

The Mickelson Motor Co., of Milwaukee, Wis., are manufacturing marine motors of the following sizes: $4\frac{1}{2}$ " x 5" and 5" x $6\frac{1}{2}$ " in. 4, 6 and 8 cylinders. All of these are made with reverse gear housing cast on to the crank casing of motor. The absence of the usual network of piping is one of the features of this motor. Oil piping is on the inside of the casing, out of the way, where there is no chance of denting piping.



A New Hand V-Bottom Motor Tender.



Cups Won by Kule-Off, owned by W. H. Snyder, of Pittsburgh.

"Automatic" Engines with Producer Gas Outlets.

The Automatic Machine Co. of Bridgeport, Conn., report that the ever-increasing demand for "Automatic" Marine Engines has doubled itself of late, due to the fact that the company is now in a position to furnish a Guaranteed Producer Gas Plant with "Automatic" Engines of 25 to 500 h.p. or more. Prospective buyers of boats requiring large power plants

ble the first 10 days owing to the feed pipes not being equipped with the proper filtering device, etc."

To prove conclusively that the ignition system was correct, we quote from Mr. Day's letter to us, which he has given us permission to publish:

"I have instructed Mr. Goodwin, who had charge of the engine, to return the spark plug to you which we used all the way from the American Coast to the Eternal City. It was



Photograph by H. R. Bliss.

A panoramic view of one leg of the International Course, showing the start of one of the races.

will do well to investigate the products of this concern.

Bath Marine Construction Company Changes Hands.

Negotiations have been closed whereby the Bath Marine Construction Company will be bought by Henry Douglas Bacon, who will assume all their obligations.

Fast Boat on Southern Mississippi.

Black Hawk is the name of a boat owned by Mr. F. D. Richardson, of Sinden, La., which has the reputation of being the fastest speed boat in that section of the country. She is 22 feet long, is powered with a Ferro 3-cylinder 25 h.p. motor, and her owner claims that she is always ready to do better than twenty miles an hour.

In a recent regatta at Biloxi, Miss., she beat the undefeated champion Jub-Jub in a 16-mile race by a mile and a half, her time for the course being 54:18. In this race she was retarded somewhat by shallow water.

A Pacific Coast Winner.

Ahrens Bros., owners of Mary A, report that their boat has been winning races by the wholesale in southern California waters. In a recent 64-mile race she beat some of the fastest boats in southern California, many of them having twice her horsepower. Her owners consider that much of her creditable showing is due to her Bosch magneto.

Strelinger Company Gives Up the Ghost.

The Strelinger Marine Engine Company of Detroit, Mich., have been adjudicated bankrupt. A meeting of the creditors to consider the property of the estate was recently held.

Guess Not's Fine Record.

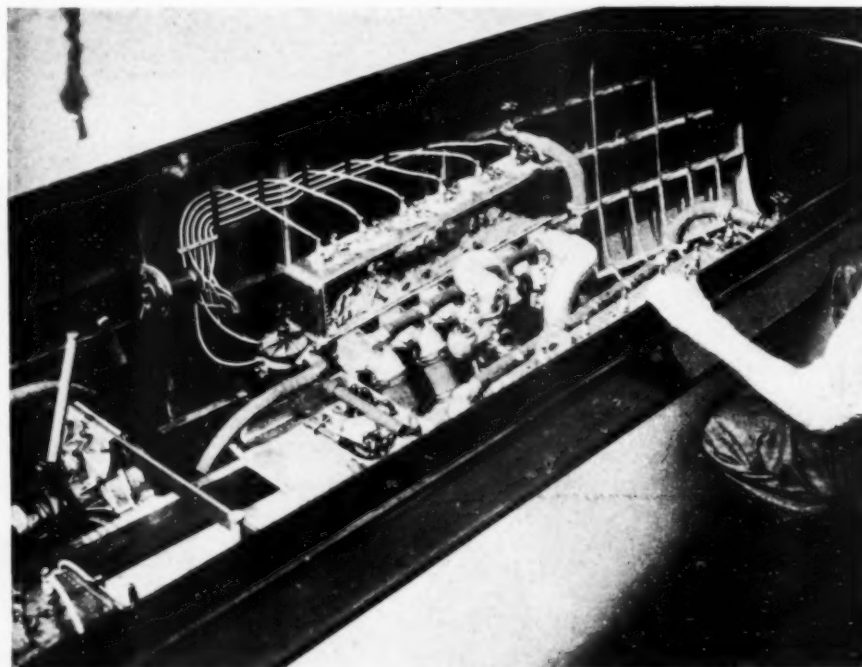
The history of Guess Not, 25 feet, 10 inches by 5 feet 4½ inches, hull designed by George F. Crouch and built by L. E. Fry & Company, Clayton, N. Y., motors Watertown two six-cylinder 4½ by 4 inches, 60 h.p., since her debut at Gananoque on August 15th has been one of continued achievement. She has defeated Mitt II, winner of the Gold Cup and on August 26th she defeated Skit, covering a course of 14.80 miles in 25:7. In her last three races, Guess Not made the fastest time ever made in a race by any boat on the St. Lawrence, not excepting Dixie, defeating Mitt II, Skip, Furlong II and Skipper making an American record for a 26-foot boat.

The Ignition System of Viva.

The photograph on this page shows clearly the ignition system of Viva, Rear-Commodore Blackton's 32-foot hydroplane. It consists of two DU6 dual magnetos fitted to the forward engines and two DU6 independent magnetos fitted to the after engines. The magnetos and dual coils are of the standard Bosch construction. The forward engines are started by pressing a button at the center of the dual coil, which can be seen in the photograph. This causes a spark to occur in the cylinder which is under compression and the gas therein naturally is ignited, forces the piston down, and the engine continues in its usual way. The switch which comprises the entire coil face is then thrown over to the magneto position and



The wreck of Dixie IV at Buffalo. Mr. Burnham and the crew are shown in the foreground.



One of Viva's four Emerson engines, showing her Bosch ignition system.

ignition is then obtained through that source.

Internationals a Valspar Triumph.

Every boat entered in the International Races this year had an exterior finish of Valspar. The makers claim that their product is the only varnish that will not turn white in either fresh or salt water, no matter how long emersed. All the Dixies have been covered with Valspar, besides Pioneer, Viva, Maple Leaf III and Tyreless IV.

Another Novel Use for a Marine Engine.

Every day is bringing forth new uses for gasoline motors. Here is one of them. The Campo Rico Trucking Company, of Goulds, Fla., have a truck and experimental farm. They employ a small railroad for hauling their products to their shipping point, a distance of one and a half miles. Locomotive No. 1 on the Campo Rico Railroad is a tram car with a 5½ h.p. Ferro as motive power.



Dixie's rudder and screws were completely torn off.

Since its installation a year ago, the Ferro has performed this unique service with remarkable reliability and efficiency.

At the Toppan Shop.

The Toppan Boat Mfg. Co., of Boston, Mass., are now constructing one of their 30 x 8 ft. raised deck cruisers, equipped with 12-15 h.p., 2-cylinder, jump spark reversible engine for a New York doctor, which is attracting considerable attention. This boat is on the same lines as the scale prints of one of these 30 ft. boats shown in one of our recent issues, and is finished a little more elaborately than any previously built. This company have just shipped another of this same type of boat to W. Knapp at Quincy, Mass., as well as many other Toppan Boats and Toppan Engines to New England and other ports. Their engines are used in many of the Government boats which this company has furnished.

Bryant & Berry Propellers Sell in Finland.

C. J. Danielson, Wasa, Finland, last winter purchased 14 bronze propellers from Bryant & Berry Co., Detroit, Mich. Some were selected from catalogues, while others were designed on information in such cases desired by the makers. The design of these propellers was shown to be correct. All of the propellers are made of fine metal and beautifully finished. Mr. Danielson writes that his customers have been entirely satisfied with the Bryant & Berry Propellers which he has sold.

New Model Plant of Simms Magneto Co.

From now on the well-known products of the Simms Magneto Co. will be manufactured in the new large plant which the company have erected at Bloomfield, N. J., on a large tract of land owned by them.

The main building occupies 4½ acres, and ranks among the foremost and most modern of factory buildings in this country. A unit type of construction has been employed, consisting of reinforced concrete beams and girders. More than 50% of the total wall surface is utilized to introduce the maximum of light and air into the working rooms.

The power-house is a separate building in close proximity to the main plant. Both the main factory and the power-house were so built that they can easily be enlarged. Every part used in Simms magnetos is manufactured by the Simms Magneto Co., and special attention has always been given to the armature winding and condenser making departments, which produce the most difficult parts of the modern high-tension magneto.

Calendar.

Carondelet M. B. C., St. Louis, Mo., September 30
—October 1. Speed boat races.
Pacific M. B. C., Belvedere, Cal., October 1.
Inter-Club regatta.
South Coast Y. C., Los Angeles, Cal., October 1.
Club races for motor boats.
Louisville M. B. C., Louisville, Ky., October 7.
Speed boat races.
San Francisco Y. C., October 8. Motor boat regatta.
Mississippi Valley Motor Boat Show, St. Louis, Mo., December 11th to 16th.

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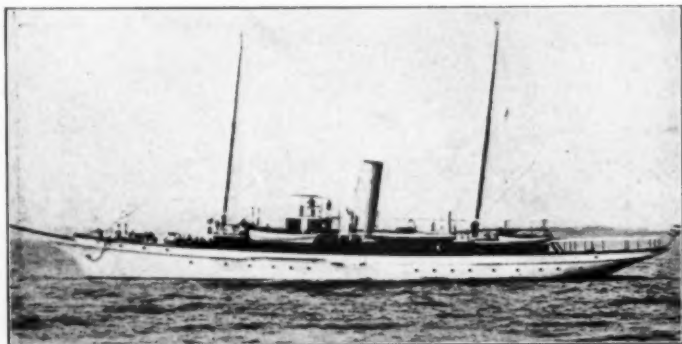
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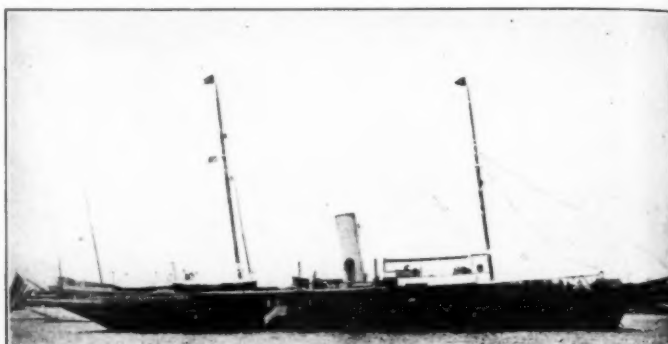
Telephone
1375 Broad

15 William Street
New York City

We have a complete list of all steam and power yachts, auxiliaries and houseboats available for sale and CHARTER for WEST INDIES and FLORIDA. A few are shown on this page. Plans, photographs and full particulars mailed on request.



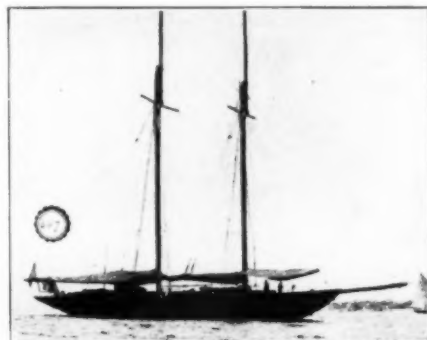
No. 238.—200 ft. steam yacht; ten staterooms; continuous deck house; good sea boat.
Please mention MOTOR BOATING.



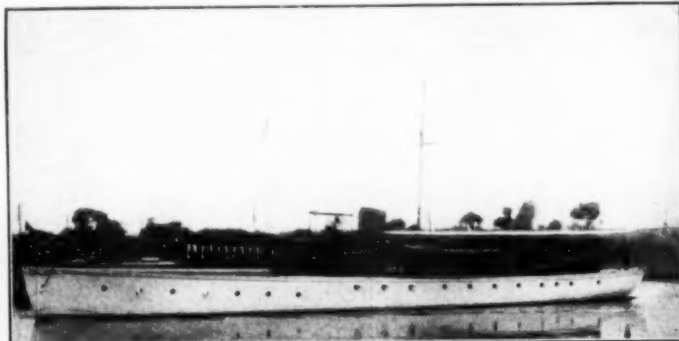
No. 39.—175 ft. steam yacht; seven staterooms; modern vessel; Economical and fast.
Please mention MOTOR BOATING.



No. 52.—170 ft. steam auxiliary; comfortable; handy under sail or power; good accommodations.
Please mention MOTOR BOATING.

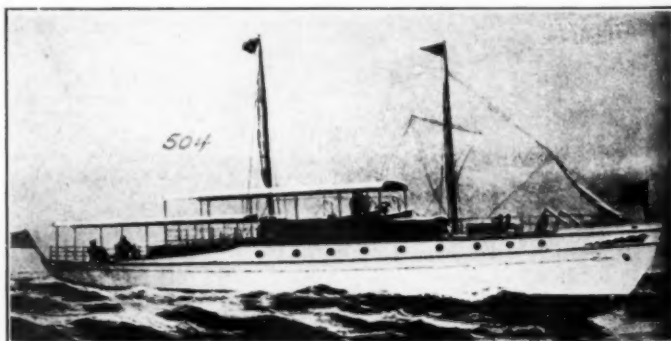


No. 647.—100 ft. modern, shoal draft, gasoline auxiliary schooner; exceptional accommodations; every modern convenience.
Please mention MOTOR BOATING.



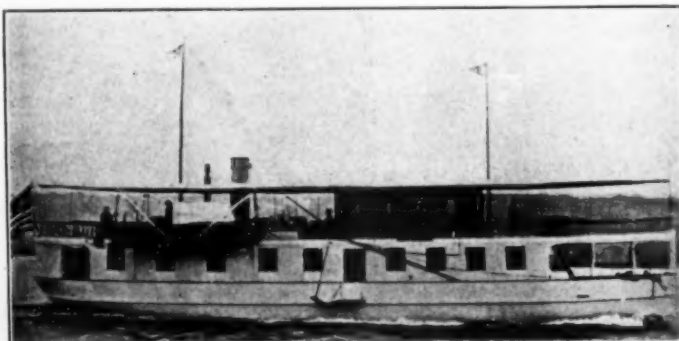
No. 285.—118 ft. fast, twin screw steel power yacht; speed 16 to 18 miles; three double staterooms, two saloons, two baths, etc.; exceptionally handsome craft; best of type available.

Please mention MOTOR BOATING.



No. 504.—75 x 17 ft. shoal draft, twin screw power yacht; speed 10 to 12 miles; large saloon, two staterooms, bath, etc.; in commission.

Please mention MOTOR BOATING.



No. 367.—Gasoline houseboat; 25 x 23.6 x 4 ft.; speed 10 to 12 miles; two 20th Century motors; large accommodation; best of size available.

Please mention MOTOR BOATING.



No. 448.—Gasoline houseboat; 65 x 17.4 x 3.6 ft.; four staterooms, bath, etc.; speed 7 1/2 knots; 25-35 H. P. Standard motor; excellent seaboat.

Please mention MOTOR BOATING.

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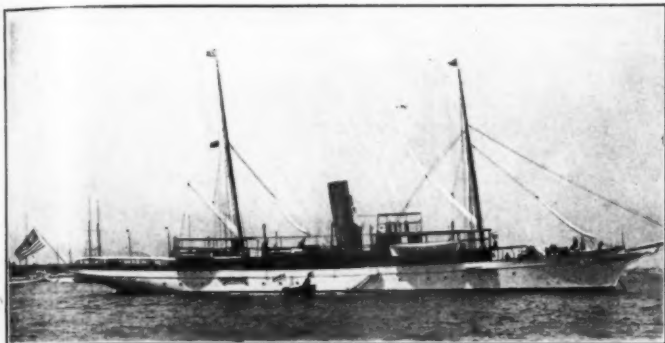
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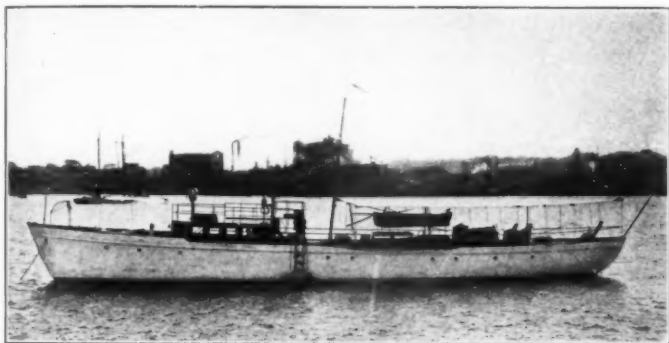
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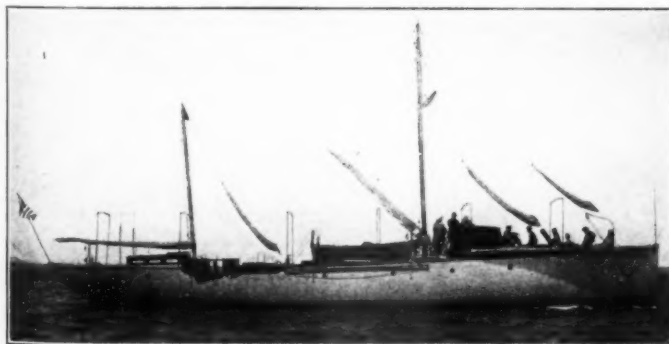
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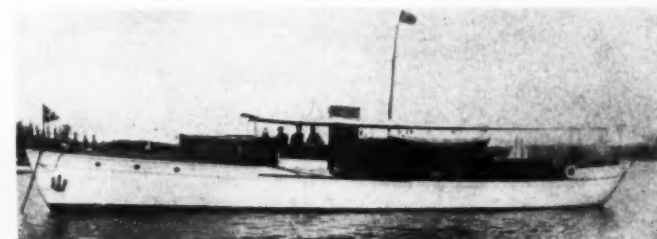
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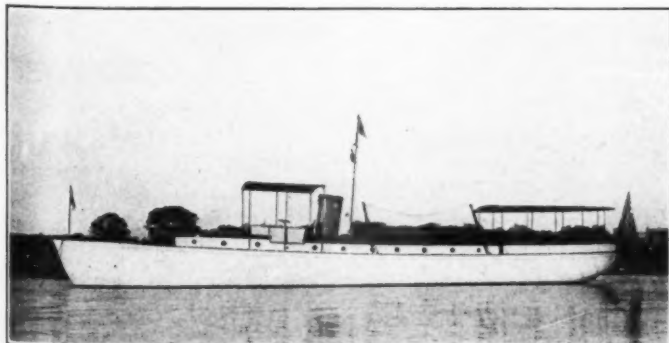
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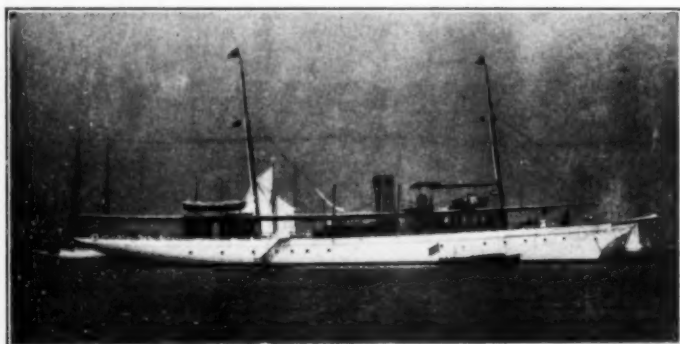
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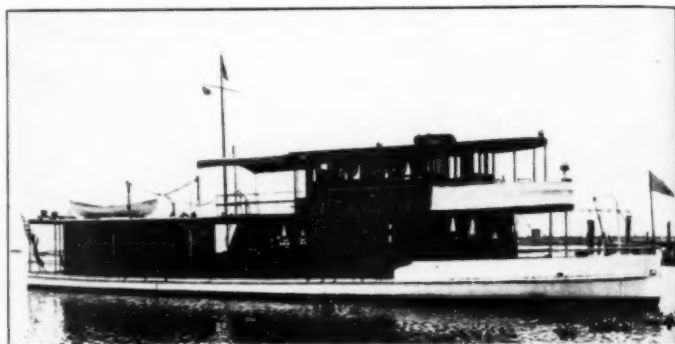
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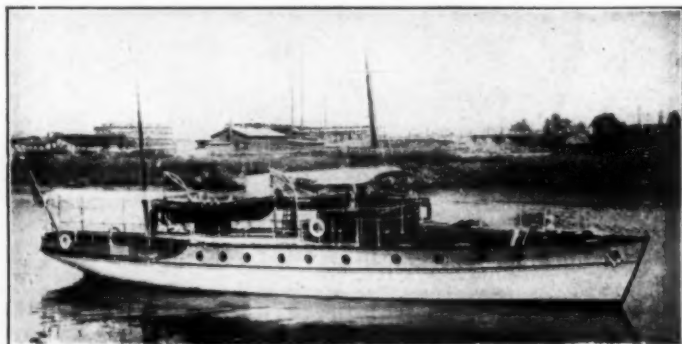
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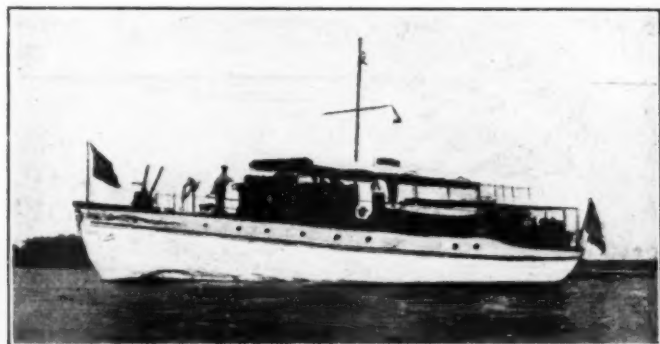
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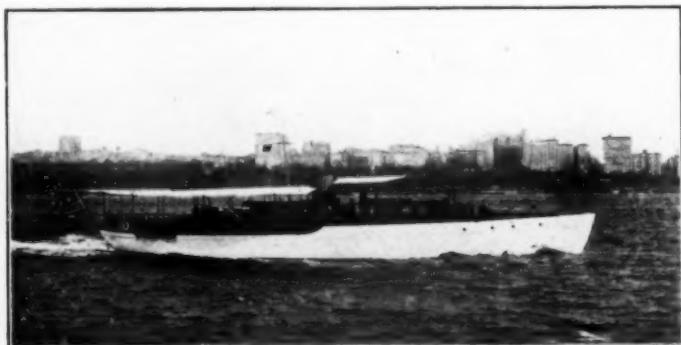
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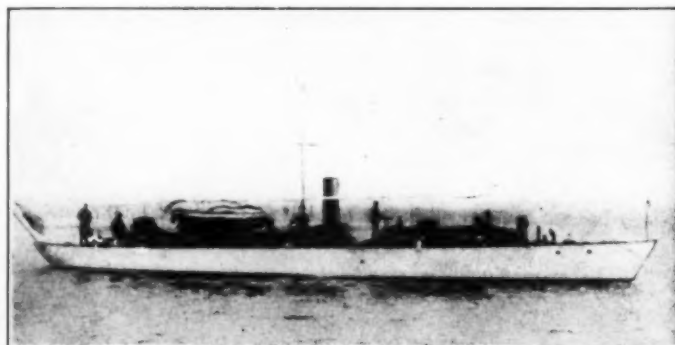
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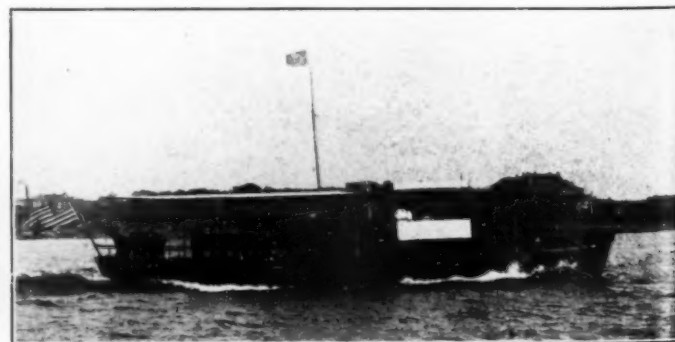
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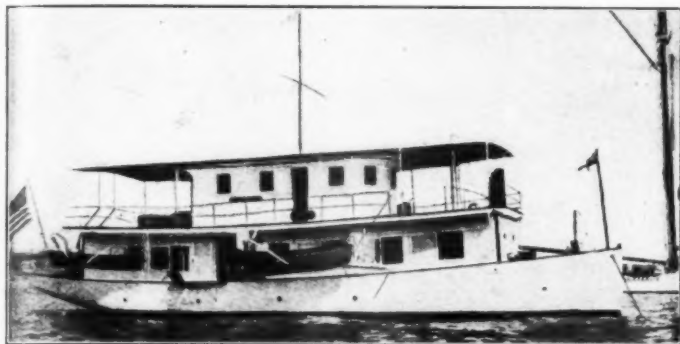
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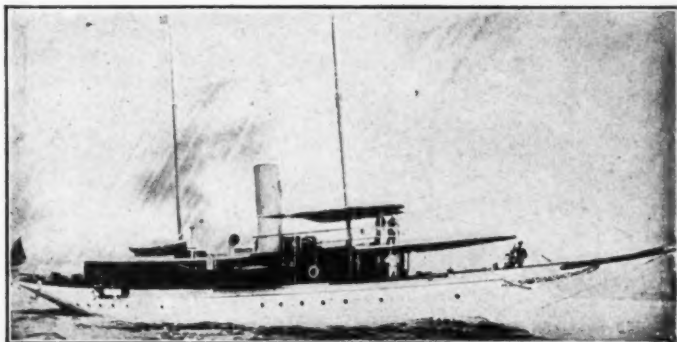
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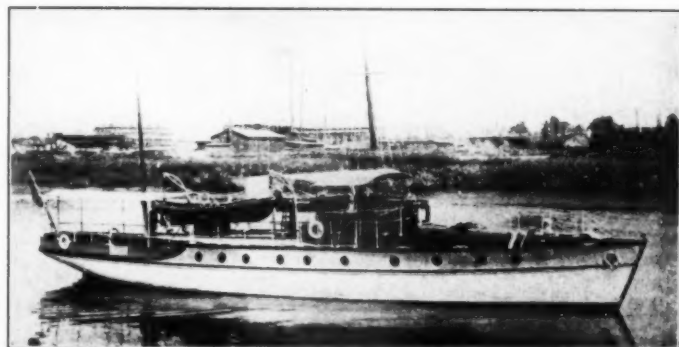
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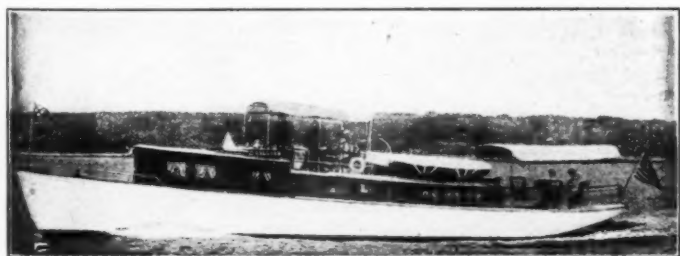
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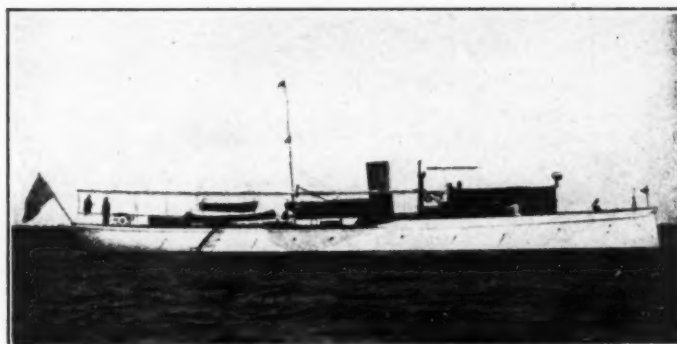
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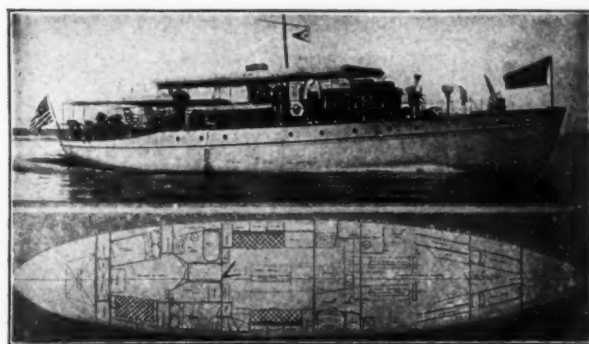
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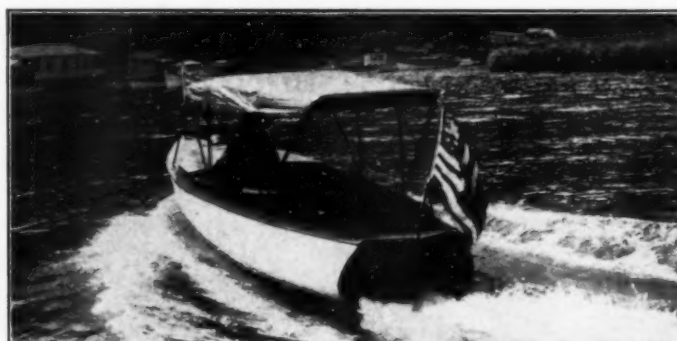
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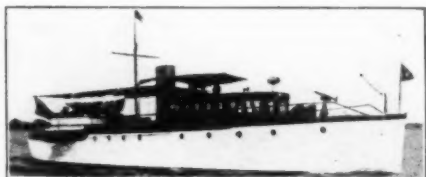
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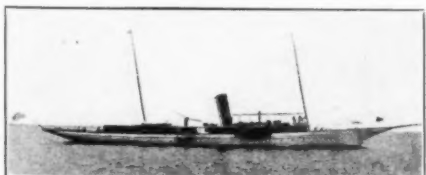
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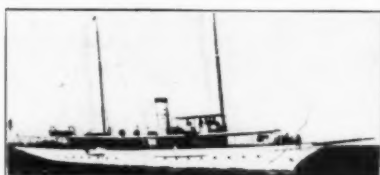
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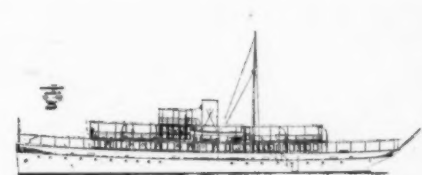
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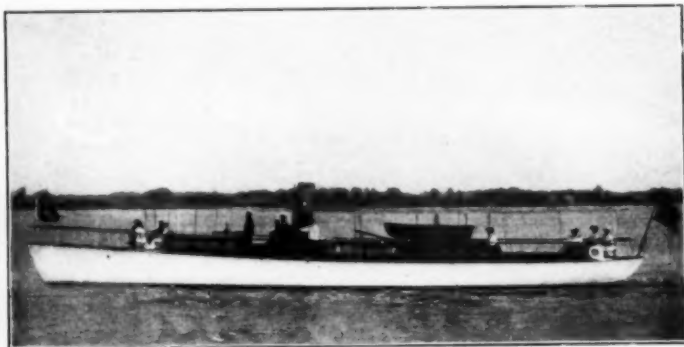
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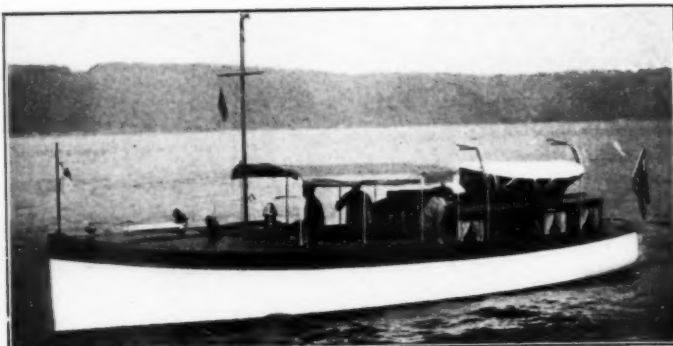
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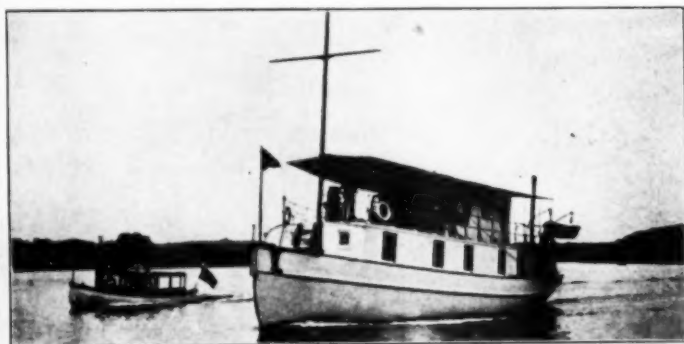
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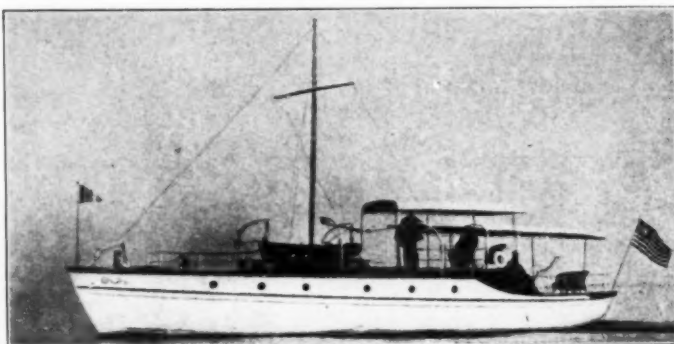
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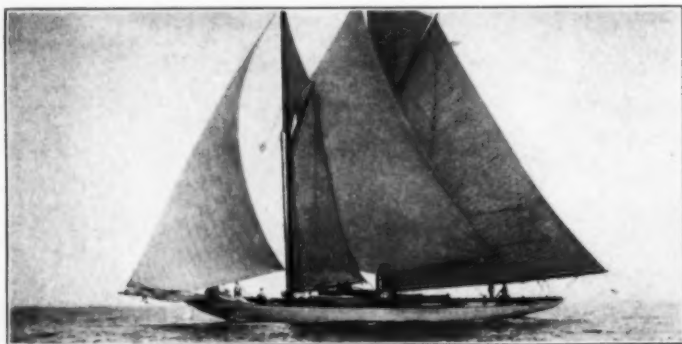
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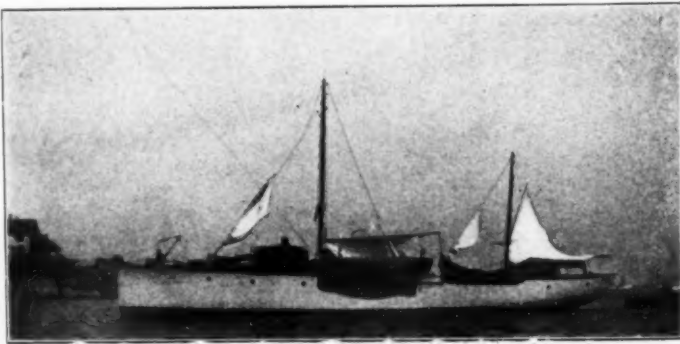
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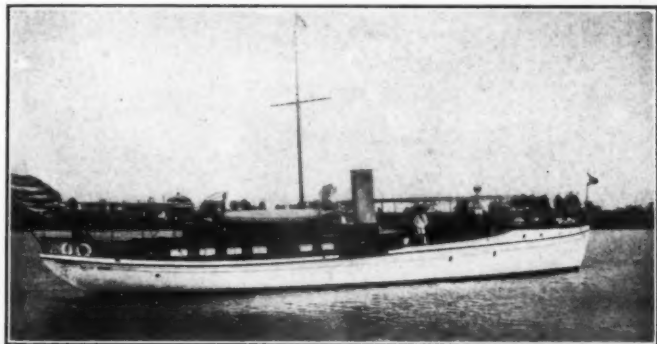
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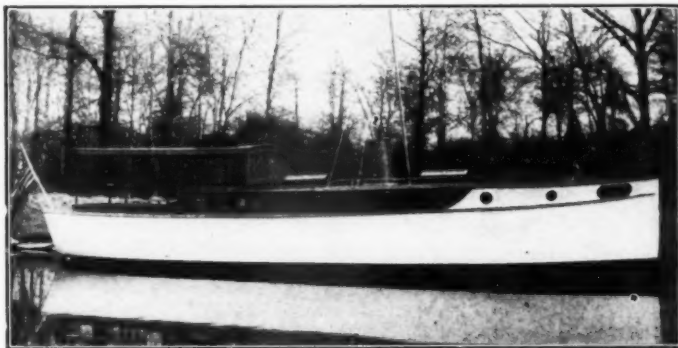
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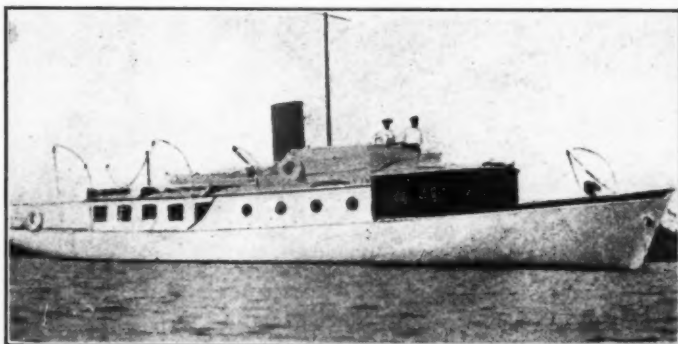
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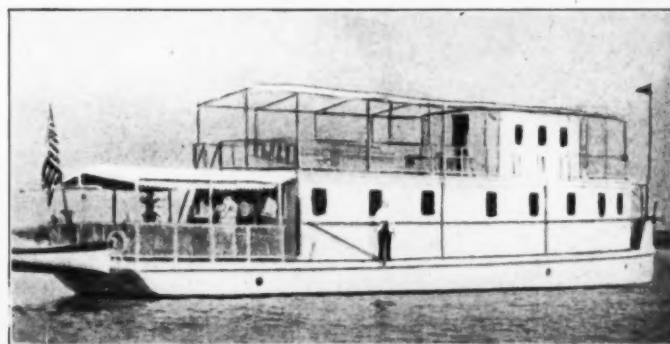
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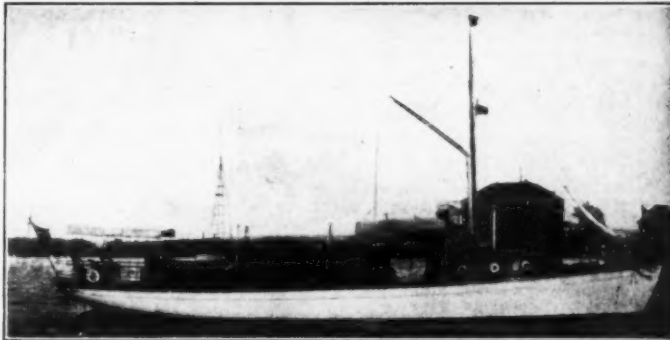
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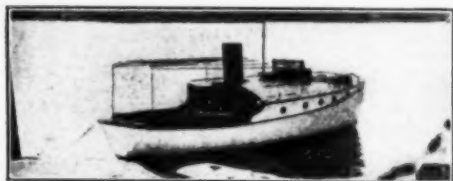
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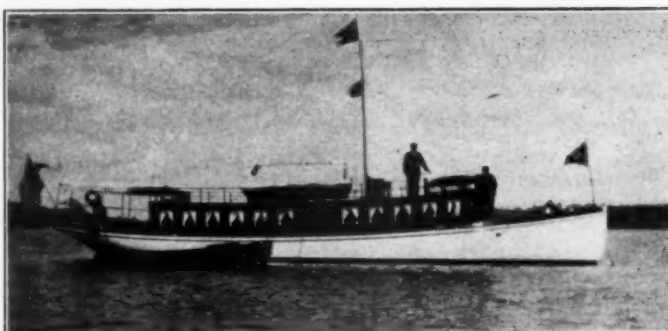
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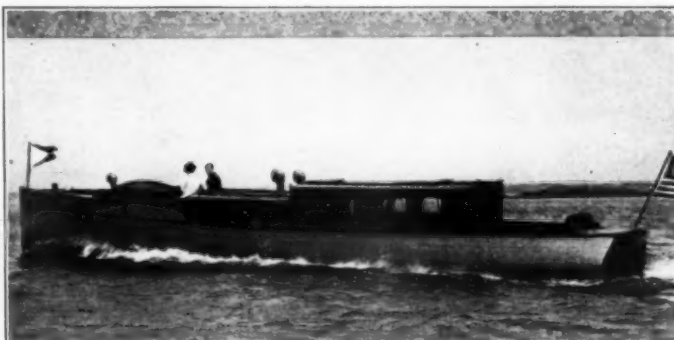
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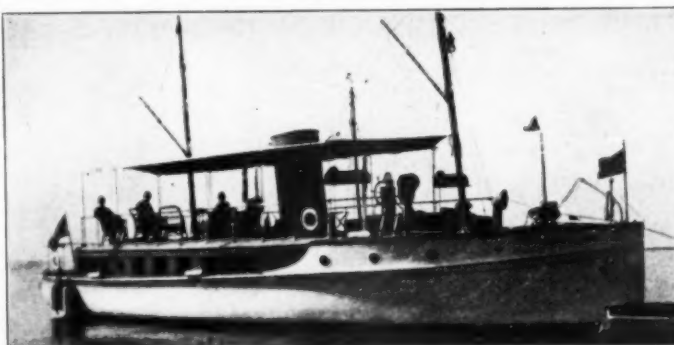
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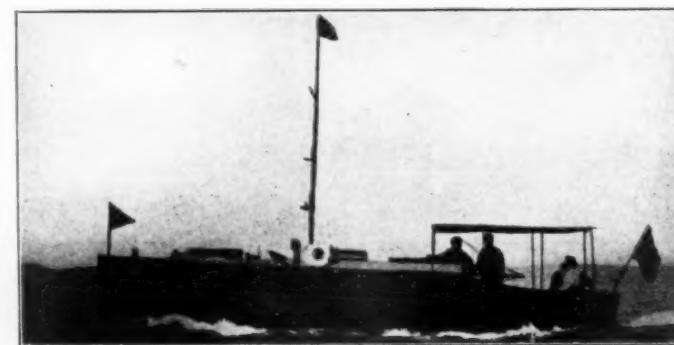
No. 1043.—For sale at a bargain, gasoline cruising launch, 61 ft. over all, 12 ft. beam, 4 ft. draught; built in 1904; strong construction, copper fastened; steers from pilot house and bridge; deck house mahogany, plate glass windows, one boat on davits, etc., etc., complete; roomy pilot house and saloon forward with galley, and toilet; good engine room with two berths for crew, and two 25 H. P. Standard motors; large main saloon and owner's quarters aft, nicely furnished and with ample stowage room. This boat is now in commission and would be a fine, comfortable craft for cruising in Southern waters. Apply to Arthur Binney, 70 Kilby Street, Boston, Mass.



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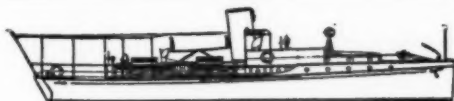
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A Unique Race.

A NOVEL race between the hare and the tortoise, with victory for the hare, occurred on September 14, when the 16 ft. hydroplane Hazel, owned by Commodore A. F. Smith, raced Frank J. Gould's 185 ft. steam yacht Helenita from Huntington to New London, a distance of 68 nautical miles, or about 77 statute miles.

This unique race was the outcome of a \$5,000 bet between the two owners. Much to the surprise of the old-timers, the hydroplane entered New London Harbor way ahead, skipping over the surface of the water like a jack-rabbit on the desert, two hours after the start, finishing with an average of 27 miles an hour. When Hazel crossed the finishing line, Helenita was nowhere in sight, and it was almost an hour later when the big yacht came into view, her average being only 19 1/4 miles per hour.

Hazel covered a considerably greater distance than did Helenita, for the latter steered a direct course from Eaton's Neck to the entrance to New London harbor, while the hydroplane followed the Long Island shore line till nearly off Horton's Point, where she turned boldly out and crossed the Sound. In this way Hazel was able to keep in comparatively smooth water most of the way.

Of course, Mr. Gould was counting on something going wrong with the delicate machinery of the hydroplane, but the latter performed its service with wonderful regularity, and another triumph for the reliability of the marine gasoline engine was the result. Twenty gallons of gasoline were consumed by Hazel during the run, and three gallons of lubricating oil.

The International Races.

(Continued from page 6.)

that she had hit a floating box tearing off part of her planking, and it required quick work on Commodore Pugh's part to get her into shallow water before she sank, as she had done at Peoria.

Just as Dixie and Pioneer were about to round the second stake boat on their second round, the latter boat suddenly dropped away. It seemed as though the tow rope had been cut so closely had they traveled. It was a repetition of last year's performance; and there she stayed until Dixie had passed her on her next lap. We were sorry for her, as we were last year, but this time the cost of her unreliability was not so great, as she had less to lose.

Little Viva plodded along the while, a good way in the rear to be sure, but without a falter. Pioneer passed her early in the fourth round and seemed assured of second place, Dixie having won before the others had completed their third round. But she didn't get in; in fact she didn't finish the race. She was on the stretch but a few hundred yards from the finish line when she stopped again, and this time for good. She was withdrawn and Viva won second place. And so the big contest was decided.

Winona—A Tug With a Record.

(Continued from page 23.)

Annual wages of cook..... 600
Food for 8 men, 350 days at 40 cents
per day each..... 1,120

Total annual operating expense.... \$10,550

The difference in favor of the power boat is \$1,510 a year. The steam tug's bills for fuel are less than the cost of distillate for the motor boat, but she requires three more men in the crew, due partly to the law and also to the necessity of employing firemen.

In the comfort and roominess of the crew's quarters, the advantage is all with the power boat. The absence of boiler and coal bunkers makes it possible to fit up the cabin in a comfortable, homelike fashion, with conveniences which are impossible on a steam tug. Consequently men are glad to stay with the gasoline boat and are more contented with their work.

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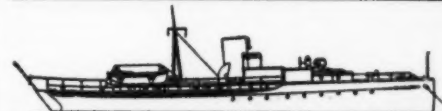
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Among the Clubs.

(Continued from page 46.)

speed of that hull is to be determined by the engine that he offers as a prize, and, although this means that this engine will have to be installed in each hull in order to determine which hull is the fastest, several members have accepted the terms and are now busy working out the designs for their boats.

The Island City Boating Association, Rock Island, Ill., held a number of motor boat races on Labor Day. There were five events with three and four prizes for each event. The races included: Five-mile, free-for-all, race for boats under twenty feet; five-mile, free-for-all, for boats under twenty-six feet; ten-mile, free-for-all; five-mile handicap; ten-mile handicap, and "lemon race." C. L. Beardsley was chairman.

The Sodus Bay Yacht Club, Sodus Point, N. Y., has had a very busy season, the special events held frequently throughout the summer being well attended. The club is now in mourning for one of its directors, Peter Kemper, Jr., who was lost off Pultneyville, N. Y., on August 26th. All social functions of the club were suspended for the remainder of the season.

The South Side Yacht Club, Freeport, N. Y., held a regatta on Labor Day. Hundreds of gaily decorated motor boats crowded the waterways of Freeport, while a big crowd lined the banks to watch the events. The big race of the day was the 25-mile race for speed boats. It was won by Kid, owned by W. Luming, with an elapsed time, 1:14:06; with Rocket, owned by H. B. Simmons, second, with a time of 1:09:06; and Marie II, owned by H. B. Smith, third, with an elapsed time of 1:24:17. Other races were held for semi-speed and for open boats.

The Akron Launch Club, Akron, O., ran off a good program of races on Summit Lake on September 4th. The results were as follows:

Class A. Speed Boats. 5 Miles—First, Eagle, H. F. Maranville; 13:09; second, Albert III, S. A. Smyers, 13:22.

Class B. Power Canoes. 2 Miles—First, Fly, M. A. Neiger, 9:12; second, Wanderer, D. F. Shook, 9:50.

Class C. Handicap. 2 Miles—First, Hero, H. H. Miller, 11:30, elapsed; second, Mabel, B. F. W., Brown, 12:48.

Class D. Free for all handicap. First, May, A. C. May, 7:08; second, Elroy, E. B. Overmeir, 7:15.

Oshkosh Power Boat Club, Oshkosh, Wis. Motor boating lost one of its strongest advocates in Wisconsin when on August 17, Commodore C. W. G. Everhart, of the Oshkosh Power Boat Club, succumbed suddenly. He had long been the leading spirit of the club at whose head his popularity and his ability to enlist the aid of others had placed him. The office of commodore is at present being filled by Vice-Commodore Seymour Heymann.

The Cleveland Power Boat Club, Cleveland, O. Three six-mile races were held over the three-mile course off Gordon Park on August 27. One was for the Ohio championship for speed boats. The results follow:

Ohio championship race for speed boats, six miles—start 3:50.

Boat	Finish.
Traveler	4:13:45
Echo	4:13:46

Cabin Cruiser Race, Six Miles; Start 3:30.

Boat	Start.	Finish.
Tramp		4:07:20
Red Feather		4:12:23
Swastika		4:17:45
Phyllis		4:17:46

Class E. Club Special Race; Six Miles.

Boat	Start.	Finish.
Echo		4:47:09
Traveler		4:47:02
Loew Victor		4:58:08

Extra Heat, Three Miles; Start 3:30.

Boat	Start.	Finish.
Traveler		5:50:05
Echo		5:50:18

Buffalo, N. Y. On August 10th the motor boat race for the championship of the Great Lakes and for the \$2,000 Smith trophy was held at this place, and was witnessed by several thousand people. There was much disappointment felt because from one reason or another most of the prominent racers of the first class were unable to contend. These included Kitty Hawk, H. & S. La Truda II. The Courier III being, therefore, the only racer of her class easily ran away with the big race, her time for the 40 1/4 miles being 1:27:57 1/2. Red Head was the only other boat to finish, her time being 1:52:38.

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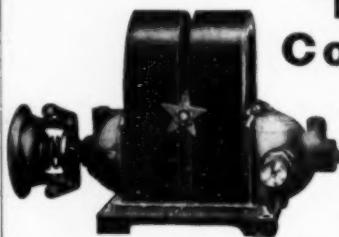
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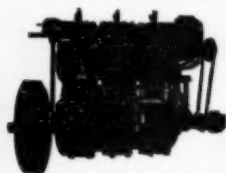
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Kitty Hawk Supreme in 26-Ft. Class.

AS in football and other sports, there is keen rivalry between the Eastern and Western States in speed boat racing. When Dixie distanced Disturber II in the Internationals, she brought to the East supremacy among the larger boats. On Saturday, September 16, at the same time that Dixie was rushing to her ruin on the Niagara, Kitty Hawk, owned by Lee Counselman, of Detroit, was busy winning for the West the championship of the 26 ft. class. A match race between the Detroit speeder and the famous little 19 ft. Sand Burr II, an Eastern boat whose recent visit to Northern waters brought her much fame, had been arranged. It was held under the auspices of the Seaside Yacht Club, Atlantic City, over a 12-mile course. The race was to be a best two out of three heats event, but two was sufficient to determine the winner. In the first, Kitty Hawk, after taking a standing start, covered 12 miles in 22:26 1/2. It took Sand Burr 9 1/2 seconds longer. The latter got the lead in the start of the second heat, but was soon passed by Kitty Hawk. On the fourth mile Sand Burr developed engine trouble, which on the fifth crippled her completely, so that she was forced to withdraw. Kitty Hawk continued and finished in 22:43, making her total for the 24 miles 46:09 1/2, an average of 31.2 miles per hour, and not the marvelous speed of 39 miles per hour as was recorded by newspaper reports.

This speed is certainly sufficient to attract attention, and to warrant the prediction that Kitty Hawk will be heard from again in larger and more notable events.



Dixie was only stopped by the stone wall.

The Wreck of 'Dixie IV

THE brilliant and triumphal career of Dixie IV, winner of the British International Races of 1911 and acknowledged the fastest floating object in the world, was sadly interrupted on Saturday, Sept. 16, in the 35-mile race for the championship of the Great Lakes and the Edwin Ross Thomas \$2,500 trophy, held under the auspices of the Motor Boat Club of Buffalo on the Niagara River. She had added another jewel to her crown the preceding day by winning the championship of the United States, a \$500 cup, donated by the Buffalo Chamber of Commerce, and other handsome trophies. She was leading in the big event and with Frederick K. Burnham, her helmsman and part owner, at the wheel, was speeding at the rate of 39 miles an hour, when shortly after rounding the upper stake boat, something went wrong with her steering gear.

What followed reads like an automobile race catastrophe. The craft was seen to careen dangerously for a moment, then head at full speed directly for the crowd which packed the shore. In another moment she was among them, leaping clean out of the water on to the rocks. One spectator who was struck by her bow was fatally injured, while her razor-edged cutwater severed the leg of another. Others were less seriously injured.

Just before the crash came, Mr. Burnham, who was making frantic efforts to get the craft turned away from the shore, raised a

(Continued on page 66.)



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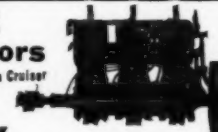
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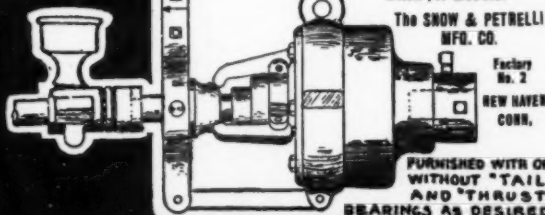
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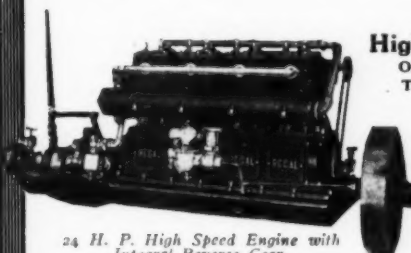


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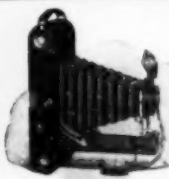
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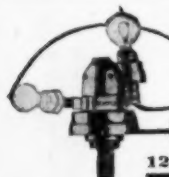
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(Continued from page 64.)

warning shout. Two members of the crew leaped into the water and thus escaped injury, but the crowd watched the boat rushing to her doom fascinated and unconscious of the proximity of any danger to themselves. Three were on the boat when she struck the rocks, Mr. Burnham and two engineers. All escaped injury, Mr. Burnham landing in the water, while the engineers were shaken up but uninjured.

On page 50 appears another view of the boat immediately after the accident occurred. The bottom of the hull of the champion was shattered, and her two engines badly damaged.

It was upon Dixie IV that America's hope for retaining the British International Trophy was founded, and results proved that it was not misplaced. In the subsequent time trials she made a speed of 39.26 nautical miles, or 45.22 statute miles per hour. She made her first public appearance on the St. Lawrence, when she entered the Gold Cup races. Here her only previous accident of the year befell her. She showed marvelous speed, but burned out a bearing in the first race and was compelled to withdraw. She was next seen at the time of the International contests on Huntington Bay, in the elimination trials for which she made a remarkable record for speed on rough water, the trial being held in the teeth of a northeaster. Then came her victory over the English boats. Her time trials followed and she was then shipped to Buffalo.

The specifications of Dixie are well known. She is slightly under 40 ft. in length, and the hull is of the single step hydroplane type.

A Warning to Motor Boatmen.

President Edw. S. Osborn, of the National Power Boat Association has sent the following circular letter to each of the clubs in the National and Western associations, and its contents are of interest to all motor boatmen:

"The association desires to call your attention to the many violations of the present law regulating the equipment of power boats, and to the disregard shown by so many power boat users of the rules of the road. The present equipment law was obtained after a strenuous fight in Congress. The Department of Commerce and Labor, backed up by a board of experts appointed by ex-President Roosevelt to make recommendations for the regulation and equipment of power boats, insisted that all power boats, no matter how small, should carry licensed pilots and engineers, and asked for an equipment that would have been almost impossible for a small boat to comply with. We were enabled, after two weeks of hard work in Washington, to defeat the demands of the Department of Commerce and Labor, and secured the present equipment law. The provisions of the equipment bill are so simple that it seems ridiculous that power boat owners would try to evade them.

"United States steamboat inspectors all over the country, as well as steamboat captains and pilots, are reporting to the department every violation, no matter how minor, of the pilot rules and the equipment law, and every accident that comes to their attention. There is no doubt in our mind but this mass of material is being gathered to be used as evidence by the department in asking of Congress the enactment of a law compelling all power boat owners to take out pilots' and engineers' licenses, and for the inspection of all boats.

"The association, of course, will do all it can to protect power boat men from adverse legislation; but we want to impress upon your members the importance of obeying the equipment law in all its particulars, as well as to familiarize themselves with and live up to the pilot rules. Hardly a day goes by that we do not read of power boat men being fined for not carrying proper lights or equipment, and we want to warn power boat men that every time they fail to equip their boats as per the regulations, and every time they violate a rule of the road, they not only endanger themselves but every other power boat owner in the country of the enactment of laws so stringent that most of us will want to quit the game."

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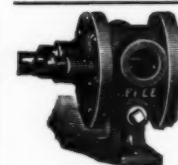
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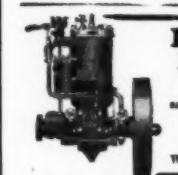


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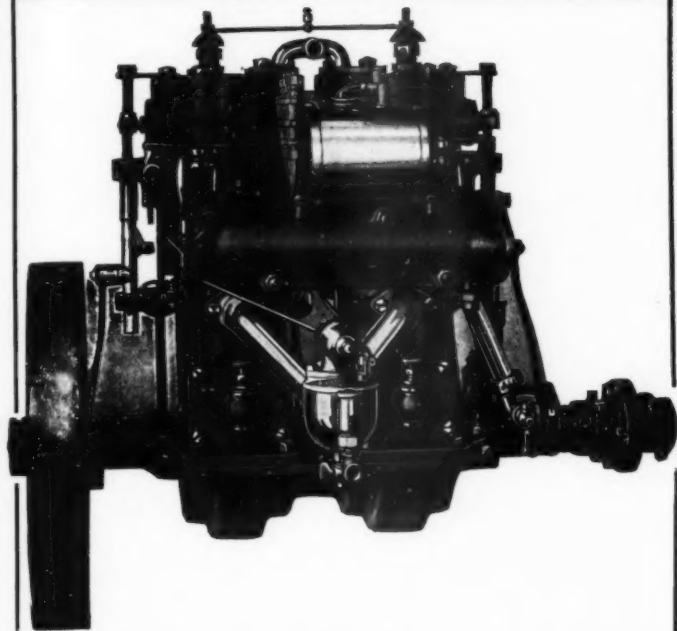
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¶ Whichever is the case, why not consider installing an ABSOLUTELY SAFETY front or rear starter? It will save you lots of inconvenience, as well as the danger of injury from "backfire." The "LOMBARD" starter entirely eliminates those objectionable features that are a part of the present methods of starting an engine.

¶ The cost is small, ranging in price from \$12.00 to \$30.00, depending on the model.

¶ Send me a full description of your engine and I will write you personally advising which of the four models would be best adapted to your engine.

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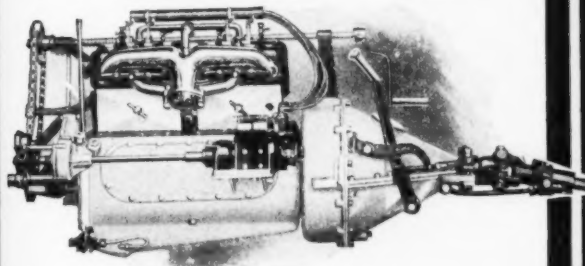
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With the Racers at Buffalo.

THE second annual regatta of the Motor Boat Club of Buffalo, held September 14, 15 and 16, brought together some of the fastest speed boats of the country, and but for the unfortunate accident to Dixie IV, was highly successful in every particular.

There were three events, one on each day. On Thursday afternoon, September 14, the meet opened with a race of 32 ft. class boats for the Edward H. Butler \$500 trophy as first prize, and the Donald McKay \$200 trophy as second prize. This race was won by Reliance IV, owned by J. J. Ryan, of Cincinnati; La Truda, owned by H. T. Vars, of Buffalo, coming in second. Reliance is a 26 ft. hydroplane equipped with 90 h.p. engine, and she covered the course in 55:54, an average speed of 32.14 miles. La Truda's speed was 31.58 miles.

On Friday, the next day, was held the race for the championship of the United States. The trophies for this event were the \$500 cup donated by the Buffalo Chamber of Commerce as first prize, and the Motor Boat Club trophy as second prize. The race was for 30 miles, no handicap, and open to all boats with a rating better than 25 miles per hour. The entries were Dixie IV, Disturber II, Skeezicks II, Eph IX, Dolphin II, Niagara II, U. U. II, La Truda II, Reliance IV, and Courier III. It was easily won by Dixie. She made an average speed of 39.85 miles for the entire course. Of the other starters, Reliance IV was the only one to finish, and she was beaten by nearly four miles. Disturber II met with the usual misfortunes that have befallen Commodore Pugh's craft this season, and she was compelled to withdraw at the end of the tenth mile. Courier III and Gretchen II withdrew early in the contest. Dixie's time for the six 5-mile laps was, 7:27, 7:33, 7:32, 7:30, 7:34, 7:29.

The biggest event, perhaps, of the Regatta, at least the one having the biggest trophy tied to it, was reserved for the final day, Saturday, September 16. This was for the Inter-lake championship of the Great Lakes, for the Edwin Ross Thomas \$2,500 trophy, and it was to compete in this race that Dixie had been shipped to Buffalo.

Besides Dixie IV, the entries included Courier III, La Truda II, Disturber II, Skeezicks, Eph IX, U. U. II, Niagara II, Dolphin II, and Gretchen II. The accident to Dixie is recorded in another column of this number and photographs of the disaster appear on page 50. The race was won by Gretchen II, owned by John H. Hubbard, of Pittsburgh. She is 31 ft. 11 in. in length and is equipped with two Van Blerck six-cylinder motors. She raced under the colors of the Detroit Motor Boat Club. Her time for the 35 miles was 1:02:08, and for each lap, 8:53, 9:11, 8:56, 9:05, 8:51, 8:41, 8:31.

Courier III, owned by Wm. J. Connor, and a 36-footer, racing under the colors of the Motor Boat Club of Buffalo, led up to the 30th mile, when her engine began to act badly. She finished second, with La Truda, another Buffalo boat, 31 ft. 6 in. in length and equipped with a 100 h.p. engine, third. Courier III's time by laps was 8:51, 9:13, 9:06, 8:52, 8:24, 8:30, 13:3, total 1:05:59; and La Truda's 10:25, 10:47, 10:51, 10:50, 11:02, 12:56, 10:43, total 1:17:34. It will be seen that the fastest lap of all was Courier's fifth in 8:24.

Hydros vs. Displacement Boats.

(Continued from page 12.)

hydroplane torpedo boat of 150 tons displacement would call for an engine capable of developing at least 8,000 horsepower. Now, assuming that such a motor could be installed, the capacity of the boat for fuel, armament, stores, etc., would, to say at least, be very seriously encroached upon, while the remedy, universally resorted to in such cases where a satisfactory compromise between the various load factors of a war ship is impossible, of increasing the tonnage, would, owing to the operation of the square cube law, only make the problem more insoluble.



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The "Seaproof" Boat Switch is the only absolutely waterproof switch that has ever been offered to the motor-boating public. Its design and construction throughout is such that we have no hesitancy in saying that it will

Outlast Many of the Ordinary Kind.

Send 25c in stamps for new mammoth catalogue.

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2 South St., New York

A HOT SPARK

Will Shoot the mixture quicker and give more power with less gasoline.



Price \$6.00 each prepaid. Coil with top over Vibrator, \$7.00.

The K-W Spark Coil gives the hottest possible spark on the smallest possible battery consumption. It has large platino iridium contact points that do not freeze or stick together, and its winding is **Guaranteed Forever** against breakdown. They don't cost you any more than the other kind. Insist on K-W. If your dealer does not have them, send us \$6.00 for a single cylinder coil, or \$7.00 for coils with top over vibrator, and we will send prepaid.

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THE K-W IGNITION CO.
60 POWER AVE. CLEVELAND, OHIO, U.S.A.

Nearly every boating enthusiast knows and prefers the Ferro Engine
There must be a Reason

It's because the many advantages of this engine are of such great value to the owner—removable cylinder head, split adjustable bearings, new idea in connecting carburetor and timer, affording perfect control of engine from high to low speed—high tension magneto like best automobiles, etc. If interested in the motive power for any boat from 12 to 40 ft. for either pleasure, speed or work purposes, write for catalog explaining all advantages.

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Agents and Dealers in Principal Cities

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It will locate ignition troubles at once and increase your engine EFFICIENCY. A PHELPS TROUBLE FINDER *doubles the joy of motor boating by halving the motor troubles.* It fits all spark plugs and can be attached, in half a minute, by any one. It *doubles or quadruples the life of the plug besides increasing the intensity of the spark.*

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The spark in the PHELPS TROUBLE FINDER is thoroughly protected from the atmosphere and gasoline fumes, thus preventing any *danger of fire or invalidating insurance.* Thousands of users endorse the PHELPS TROUBLE FINDER. "It is worth its weight in gold," says one of them.

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Check—Money back if they are not all we claim.
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A powerful little whistle—not a screech—can be heard a mile away. Whistle can be placed anywhere and connected to blower by flexible hose. No air tank. Whistle is brass, nickel plated; blower bronze. Made for all sizes of boats. Durable and trouble-proof.

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Best and Most Durable

Thoroughly Waterproof and Non-Fouling

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Weights 125 pounds

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Boat complete - \$16.00

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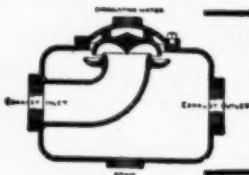
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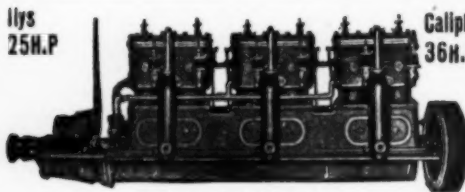
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First to Havana
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First to Gulf Stream and the tropics, under all conditions of climate and elements. Winning Four (4) Cups Out of Five (5). Also Winner of Greatest Race of 1909 from Bermuda to New York. No Handicap. Boat for boat. Winner of the National Championship and Challenge Race of New York in 1909. Winner of every race entered in cruiser class in United States in 1909. A record which has never been equaled. Holds world's record for hours run and revolutions turned with full load on engine.

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Send 4 cents postage for Marine Catalogue

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High in Quality Low in Price

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A Detroit Force Feed Oiler *insures* you against wasted oil and a damaged engine.

It *guarantees* that your engine won't be laid up by the many troubles that come from faulty lubrication.

And it pays big dividends in freedom from bother and delay.

There is a Detroit Force Feed Oiler for every engine. Made in all sizes and all numbers of feeds with pulley, ratchet and gear drive.

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The Detroit Oiler starts and stops with the engine. It automatically changes its rate of feed as the engine speed changes.

You never have to bother with a Detroit because it remembers for you.

Once adjusted, it never has to be regulated. It gives you efficient, automatic, dependable, trouble-proof lubrication that never requires any attention at all.

Write today for catalog P-64 and full information, stating what kind of engine you have.

DETROIT LUBRICATOR COMPANY.
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Largest manufacturers of lubricating devices in the world.



"It's the Best Engine I Ever Had and I've Had Eight Different Makes"

That is the sort of testimonial we have received by the hundred from the users of this unapproachable gasoline engine.

They all say its the best, because of its capability in doing a tremendous amount of work, because of the ease with which it is run and controlled, because of its marked economy in the use of fuel, and because it never gets out of repair.

It has run 8,000 miles without a single hitch.

"The Automatic"

MARINE ENGINES

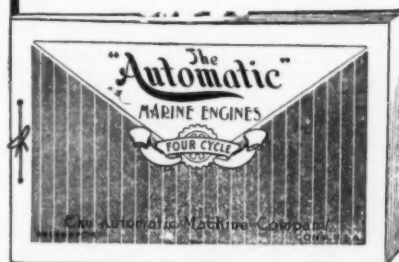
are made on a sensible pattern—that is the reason they are superseding all others.

Each cylinder in the engine is independent, which puts an end to breakdowns, insures simple operation, and results in the utilization of all the power to propel the boat, instead of in turning useless wheels and shafts.

You cannot know what comfort, what swift and easy running and what economy is — until you have installed The AUTOMATIC in your boat.

Write us for our new catalog, send the dimensions of your boat. We will make you an allowance on your old engine.

The Automatic Machine Company
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Dear Sirs: Please send your new Catalogue.
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The New SPECIAL ERD

NEVER HAVE WE BELIEVED IT POSSIBLE TO BUILD AN ENGINE TOO GOOD

That is our Policy and that is why Erd QUALITY is spoken of Everywhere.

For 15 years the name Erd has stood for POWER and RELIABILITY, due entirely to the most careful designing and construction.

As Mr. J. G. Erd has never designed anything but successful engines in the past, much anticipation was felt when it became known he was to bring forth a SPECIAL LIGHT WEIGHT HIGH SPEED MOTOR.

IT IS NOW PERFECTED AND HIS MASTERPIECE

It has Surpassed our biggest Expectations.

BEAUTIFULLY DESIGNED.
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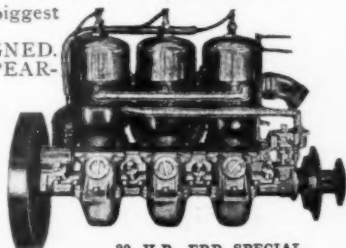
WEIGHT SMALL.
POWER BEYOND BELIEF and, Most of all, RELIABILITY is there, which has characterized every Erd Motor for the past 15 years.

REMEMBER, RELIABILITY AS WELL AS SPEED WINS RACES

Write to-day for our illustrated catalogue of two and four-cycle Motors from 3-60 H.P., and information about this New Erd Special.

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30 H.P. ERD SPECIAL
Weight Complete 225 lbs.
Bore 4 1/2" Stroke 4 1/2"
Manufactured in 3-4-6 Cylinders

BOAT BUILDERS

Get your order in this season for a Sample Motor. Use it as hard as you know how, and if it does not drive your boat faster than any other two cycle built, same bore and stroke, we will refund you your money at the end of the season.

Erd Motors have helped to make many boats famous. They will do the same with yours.



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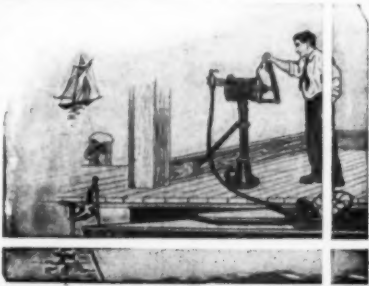
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This illustration shows a modern boathouse equipped with a BOWSER SYSTEM for gasolene. See how easy it is to pump gasolene directly into the boat. This system keeps the gasolene pure and strong—that means more power.

No trouble to install, and the cost is within the reach of all. Ask for catalogue No. 5 d.

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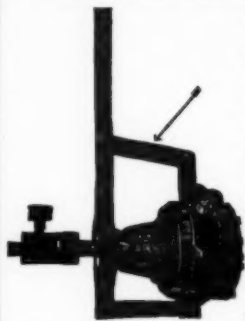

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Famous for Quick, Steady Service
Agents Wanted
HOLLIDAY ENGINEERING CO.
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STA-RITE Spark Plugs have Stayed Right the Longest for Nine Years. Repaired from Port actually



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The success of the Paragon Gear has been due, not to a line of "hot air" advertising, but to the fact that it is

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Built right
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Powerful Engines of the four-cycle type. Made in 1, 2, 4 and 6 cylinder models of three to eighty H.P.

Counts high in material, workmanship and design. Write today for catalog.

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EDISON BSCO PRIMARY BATTERY

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The Edison BSCO is the most reliable as well as the most economical battery made for gas engine ignition—the kind of battery that will stand up under a day's work, day after day, for the largest period without renewal. And when renewals are required it is the simplest matter in the world to make the change—merely loosen the thumbscrew on the cover, let the old elements fall and supply new elements. And renewals are much less expensive than in other batteries.

We have a book that gives full particulars of the construction of the Edison BSCO, and also some interesting information on the work it is doing in ignition service. Write for this book today.

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A FEW OF THE IMPORTANT EVENTS IN WHICH



has figured prominently this season.

The Block Island Race

"Ruth II," RALACO, First
"Elizabeth," RALACO, Second
"Respite," RALACO, Fourth

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"Elizabeth," RALACO Winner

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In this race 24 Cabin Cruisers started. Of the first seven to finish, three were equipped with RALACOS.

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RALACO Engines are not racing machines, but are medium weight, medium speed machines, designed for cruising and working boats.

Built in sizes from 10 to 50 h.p.

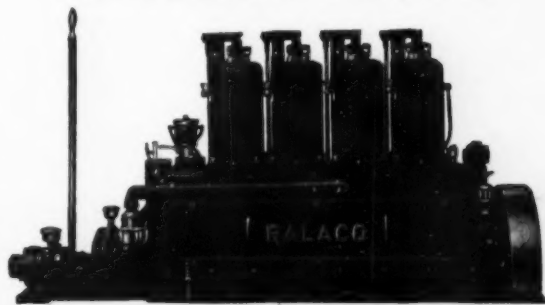
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The S. M. Jones Company

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Four Dollars a Year

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Everything Used on a Boat
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2½ to 25 H.P. two cycle
Powerful speedy reliable
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4 to 45 H. P. THE WORLDS SIMPLEST Installed Operated by anyone.
Complete Outfits ready for Rowboat or Schooner. **GUARANTEED.**
TWELVE YEARS building, perfecting, success with THE ONE TYPE. Write to Originators of VALVELESS for new "MARINE BOOK" a liberal Educator to all, free.
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LAUNCHES, ENGINES and ACCESSORIES

Waterproof battery set - - - - \$3.00
Gasoline strainer - - - - 1.00
Spark and throttle control - - - 1.00
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4-inch ventilator, complete - - - 5.00

Write for our 1911, 125 page catalogue.
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LISKS MARINE ENGINES

4 CYCLE ONLY
1 to 6 Cylinders. 5 to 40 H. P.

Manufactured by
GEO. A. LISK

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Manufacturers of High Grade Marine Engines



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PATENTED AUG. 31, 1909

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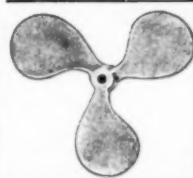
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Self-cleaning and non-fouling. Designed especially for magneto—equally effective with batteries. The best plugs you ever bought for \$1.00 apiece. Porcelain or Mica. ½ in. Standard, A. L. A. M. or Metric.

Write us at once for our special offer.

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High Speed Wheels and Boat Fittings

The best at lowest prices
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Engines for Hard Service

Both marine and stationary, gas, gasoline, distillate, alcohol and fuel oil. 20 to 200 H. P.
Economical and easy to start.

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2 to 2 1/2 H.P. engines—the most perfect of their size ever offered. Built of best materials—few parts—consume little gasoline, kerosene or alcohol.
Send for free catalogue showing all models.
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Demonstrator Agents wanted in every boating community. Special wholesale price on first outfit sold.

Write today for our wonderful offer.

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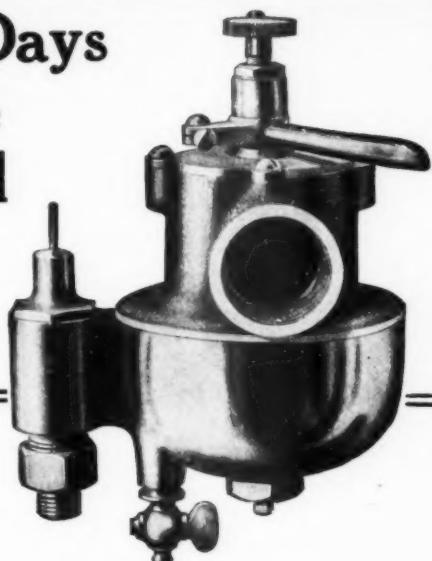
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Waterproof Cloth

Keeps you dry in all weathers, under all conditions, all the time. It defies the elements. Requires no attention; always ready to wear.

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Free
Trial**



A New Principle in Carburetors

If the *Krice Carburetor* does not give 20% more power, use less gasoline, give better control, send it back and get your money back. You take no chances. We guarantee every *Carburetor* sold to give absolute satisfaction. The only sure way to know that you are getting *all* the power from your engine is to try a *Krice Carburetor*.

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**Twenty Years on the Market
and Still Up With the Leaders**

(FOUR CYCLE, 16 H. P. TO 110 H. P., 2 TO 4 CYLINDERS)

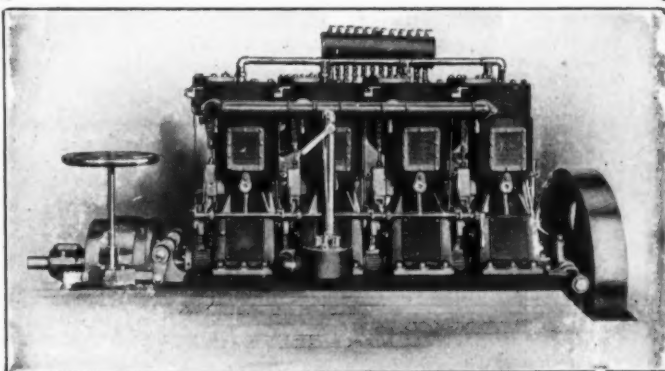
GLOBE

THE REAL HEAVY DUTY ENGINE

UNIVERSALLY CONCEDED TO BE WITHOUT A PEER FOR ITS OWN PARTICULAR SERVICE, VIZ, RELIABLE POWER FOR COMMERCIAL BOATS OF ALL TYPES AND SIZES, THE BEST FOR —

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WE ARE ALSO BUILDERS OF THE

EDDYSTONE-GLOBE

THE OPEN CRANK CASE ENGINE

(TWO CYCLE, 6 H. P. TO 48 H. P., 1 TO 6 CYLINDERS)

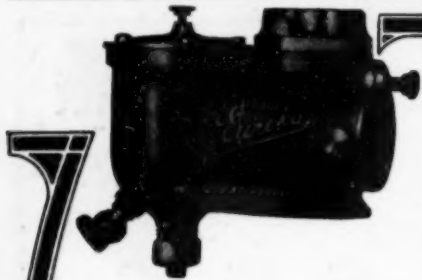
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PENNSYLVANIA IRON WORKS CO.

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Rebuilt Engines For Sale Up To 90 H. P.



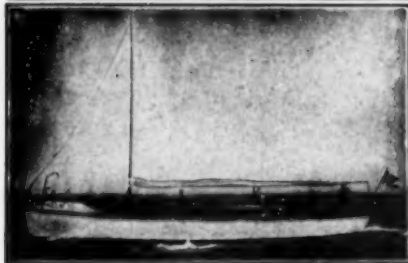
The EUREKA ^{Two Cycle} ^{Special} CARBURETOR

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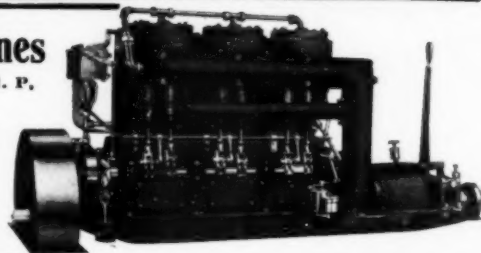
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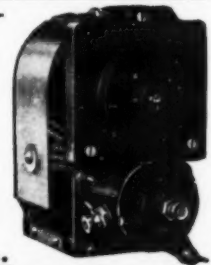
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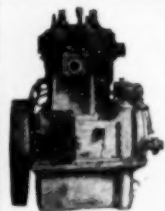
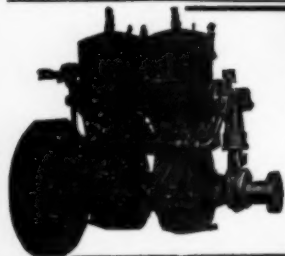
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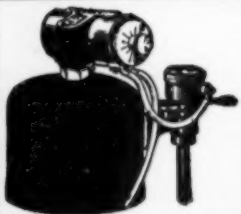
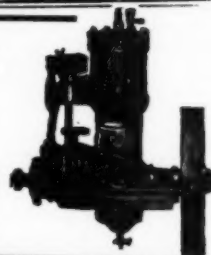


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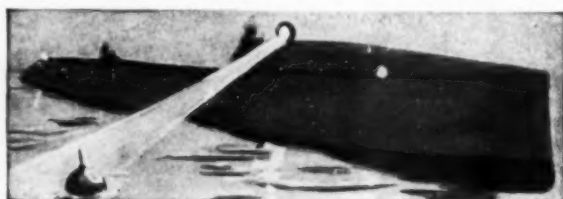
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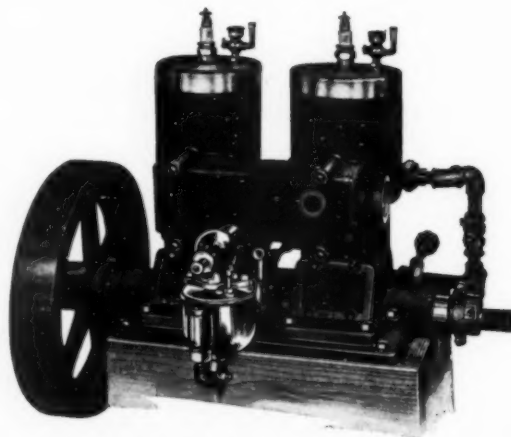
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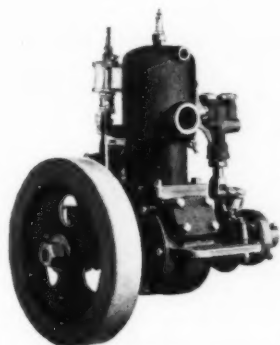
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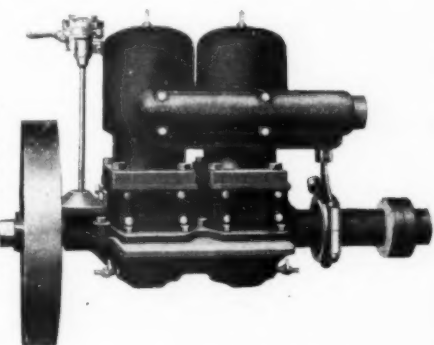
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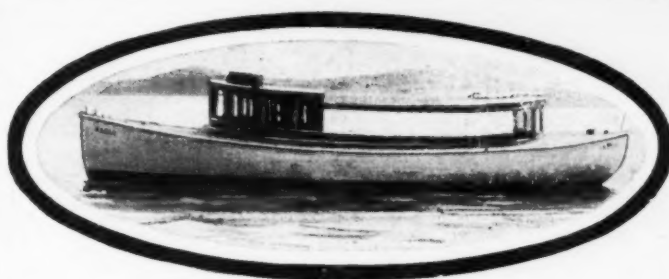


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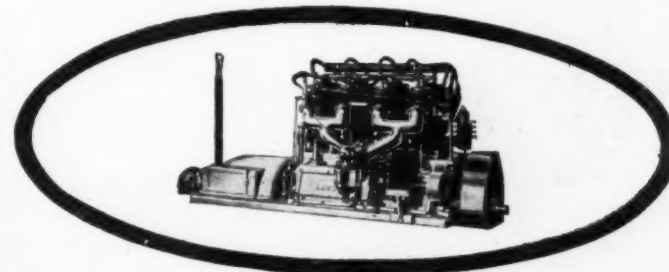
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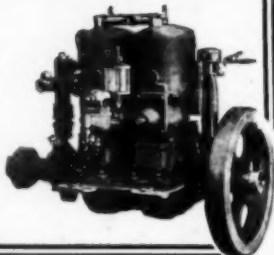
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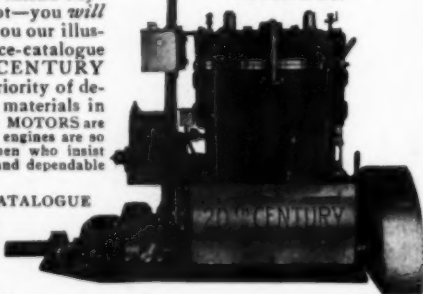
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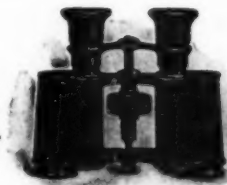


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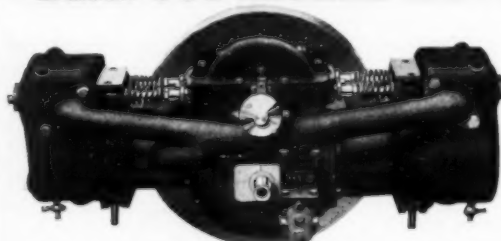
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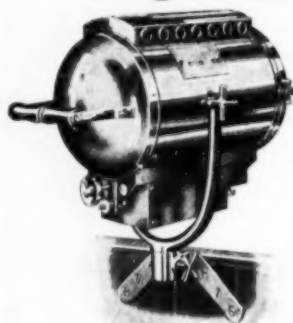
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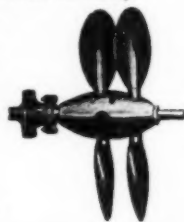
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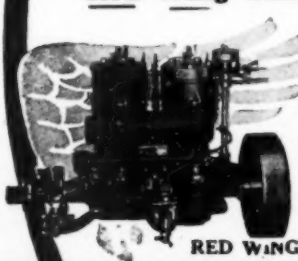
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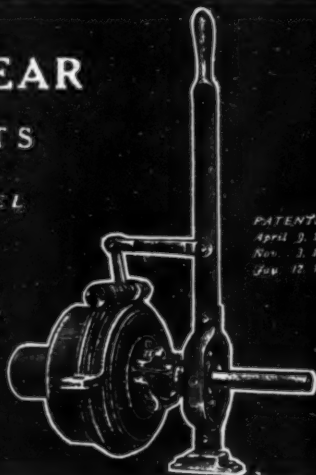
THE IMPROVED BALL REVERSE GEAR for MOTOR BOATS

Made Only of
HARDENED STEEL
SPUR GEARS

MOST RELIABLE
HIGHEST GRADE
EASIEST TO INSTALL
FOUR SIZES CARRIED IN STOCK

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NEW YORK GEAR WORKS
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BROOKLYN, N. Y.

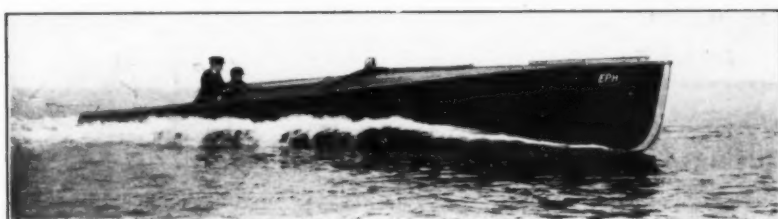


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April 3, 1901
Nov. 3, 1902
Jan. 12, 1904

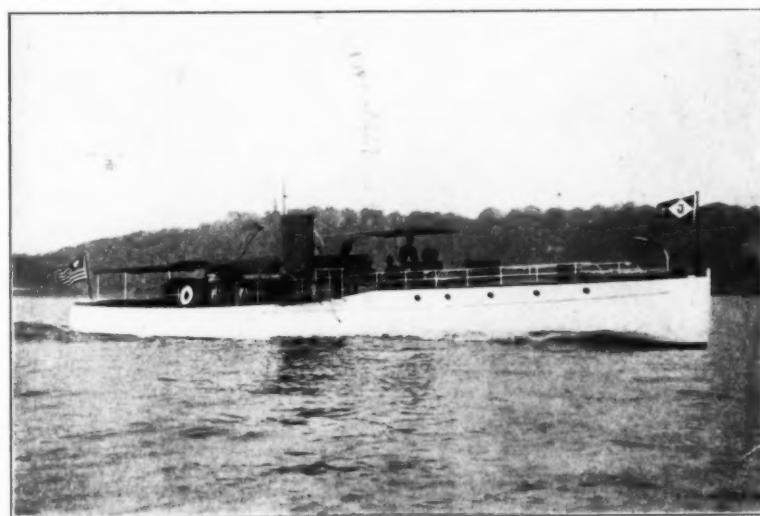
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(CONSOLIDATED)

Engineers, Designers and Builders of
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The best quality obtainable, up-to-date, high class, successful, powerful, dependable. The pleasure outfit with the stamp of originality in model.



A Seabury Yacht, Launch or Engine will give satisfactory results, because they are the best.

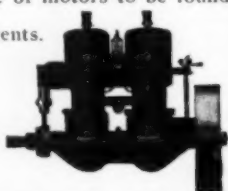
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Fox Motors "SIMPLIFIED" FOR 1912

Write and find out what this means.
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Fox **Heavy Duty Motors**, 50 pounds per H. P.
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Fox **De Luxe Motors** for speed boats and aeroplanes 4 to 5 pounds per H. P.
Dean **Stationary Engines** (gas or gasoline). In use for over ten years.
We now claim the largest and best line of motors to be found in the world.
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The "Glenwood" Folding Lavatory, with Vitro-Adamant roll rim lipped oval basin, N. P. copper lining, soap and brush holders N. P. brass pump, towel rack, N. P. brass trimmings.
Quartered oak, polished finish - \$42.50
Mahogany, polished finish, add - 1.50
Dimensions: Height, 20 inches; Width, 19 inches; Depth from back to front when closed, 6 inches; when open, 18 inches; oval basin, 15 inches x 12 inches.
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Largest Manufacturers in the World of
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Bridgeport Standard (MITCHELL'S) Non-Fouling Enamel Paint

THE BEST PAINT
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Write for booklet giving further details

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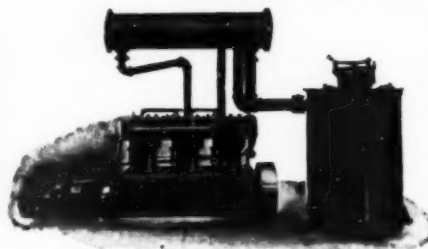
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The Cheapest and Safest Marine Power



Operates on many of the good makes of four cycle gasoline engines at one eighth the cost. 25 to 5,000 H. P. sizes. Our catalogue tells you how to use and all about it. We guarantee results.

Marine Producer Gas Power Company

2 RECTOR STREET,

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That's the Name

You'll be proud to see on your new motor. Now—Friend Motor-Boater—take

time enough—you don't buy motors every day. Regrets won't pull you out of a standstill miles from land; or maybe there's a storm on or you want to cruise; you must be sure. Get a Doman—the kind that goes—that grips the job and hangs on. Our Free Catalog and "Owner's book" tell both sides of the story—good reading.
When shall we send yours?

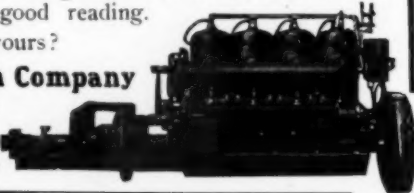
The H. C. Doman Company

Dept. C

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N. Y. City



HOW WE SERVE YOU

- 1st. We will build you the best boat for the money, supply you with dingys, anchor buoys, etc.
- 2nd. We will store your boat in our enclosed yard, guarded by a watchman day and night.
- 3rd. We can offer you a choice of the best second hand boats on the market and take your present craft in part payment on a new or second hand craft.

The Bayonne Launch Co.

East 36th St. and New York Bay Bayonne, N. J.

Take C. R. R. of N. J. to 33rd Street Station

A-B-C LIFE PRESERVERS

Their superiority is simple as A-B-C, because they are safer, smaller, lighter, and more buoyant and durable than any other. Waterproof, mildew and rot-proof. Float indefinitely. Made of specially prepared South American wood, covered with best white duck or khaki. Outlast any cork belt made and are 2½ lbs. lighter and occupy ½ less space than cork. Exceed Government requirements. When you need a life preserver you want the best. That's the A-B-C.



We also build steel, wood and bronze Motor Boats to order. No catalog because we have no stock designs but sketches and estimates gladly submitted.

Welin Davit and Lane & DeGroot Co.
(Consolidated)

315 Vernon Ave., Long Island City, N. Y.

Packard
CABLE

Always Inspires Confidence
BECAUSE

It Is Far Superior.

A USER SAYS: "I use Packard Cable for marine work and find it more than satisfactory. I shall specify it for my next year's boat. It is specially adapted for use under the decks where ordinary cable becomes useless in a few months."

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Tenders

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A
Real
Boat

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Fast
enough
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beat
the
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PETER PAN IV

26 Ft. x 4 Ft. 10 In. 40 H.P. Record 27.27 Miles Per Hour

The Reliance Motor Boat Co.,

210th St & Harlem River, New York City

TELEPHONE 84 AUDUBON

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COLUMBIAN

RESULTS

PRONTO III broke the world's record for 20-ft. boats at Peoria, May 30, 1911. 60 H. P. Roberts motor.

SAND BURR II broke Pronto's world's record at Peoria, July 25th. Best official time, 35 miles per hour. Built by Apel, Atlantic City. 2 Emerson Engines.

ACE II, 33 miles per hour, fastest boat at Palm Beach. Won time prize with a Columbian and a 100 H. P. Sterling engine.

FURLONG, 42 miles per hour. Unofficial. 2 150 H. P. Emerson engines.



"THE WHEELS THAT WIN"

RESULTS

VIVA, International Racer, 50 miles per hour (unofficial); Hydroplane; 4 Emerson engines.

MISSOURI III broke world's record for 26 ft. boats at Dubuque, July 5th. Built by Beauvais, of St. Louis. 70 H. P. Missouri engine. Speed 30 miles.

OREGON WOLF Portland, Oregon, 33 miles per hour, unofficial. 150 H. P. Smalley engine.

ZIP III, Philadelphia, 100 H. P. Sterling engine. 32 miles per hour.

CHILLICOTHE, cruiser, 1,500 miles in 92 hours. Chillicothe, Ill., to New Orleans. Built by Stillman & Truitt, Chillicothe. 45 H. P. Sterling engine.

TINY TAD, HOBGOBLIN, ELMER L. II. ROCKET, Etc.

THESE CARRY COLUMBIANS

AND WIN

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AND OUR

ACCESSORIES CATALOG

DESCRIBING OUR EXCLUSIVE LINE OF

Manganese Bronze Struts, Rudders, Etc.

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COLUMBIAN BRASS FOUNDRY

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Cosmopolitan Secures Exclusive Rights to
America's Greatest Authors and Artists

ROBERT W. CHAMBERS

and the very best in romantic novels, are synonymous in American literature. Take "The Common Law," for instance, or "The Fighting Chance." To-day Chambers is at the height of his power. Readers of *Cosmopolitan* will find his new novel, "The Turning Point," to be his best—actually and literally his *best*.

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will illustrate "The Turning Point." His matchless drawings are famous the world over. Among pen and ink artists he is supreme, and the illustrations for "The Turning Point" will stand out among his finest efforts.

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ranks as the great realist of modern fiction. Human hearts and lives lay naked before him. What he saw he wove into the most delightful and masterly novels of a decade. And yet, big as his earliest novels were, "The Price She Paid" is even greater. It was his last—and his masterpiece.

HOWARD CHANDLER CHRISTY

will illustrate "The Price She Paid," and his superb drawings add strong pictorial emphasis to the charm of the story.

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At the end of this month, the subscription price of "Cosmopolitan" Magazine advances to \$1.50 a year. For the present, the price is \$1. Now is the time to order. If you subscribe to-day, each subscription will save you 50 cents, and by subscribing 2, 3 or 5 years in advance, you will be saving from \$1 to \$2.50. Every subscription that reaches us after Nov. 10th will cost \$1.50—every subscription that comes in before then will cost only \$1. This is your last chance. Take advantage of it now.

Cosmopolitan

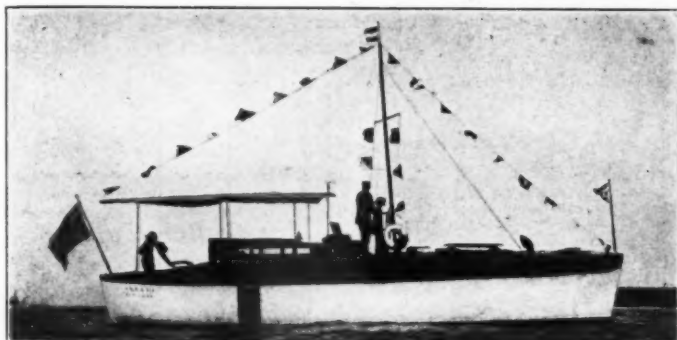


M B-10
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Magazine,
381 Fourth
Ave., N. Y.
City, N. Y.
Please send me
COSMOPOLITAN
for years.
Herewith I enclose

Name.....
Street.....
City.....
State.....

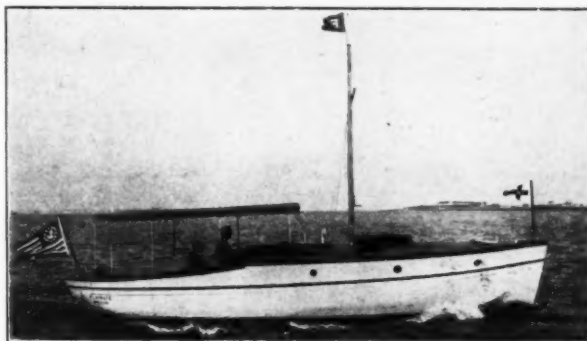
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30 FOOT CRUISER



R E M O H
SPEED 13.5

30 FOOT CRUISER



PLAYMATE
SPEED 10.

Arthur P. Homer

Naval Architect

156 STATE STREET
BOSTON, MASS.

Motor Boats

50 FOOT FAST CRUISER



GEE WHIZZ IV
SPEED 18.5

For Sale. Cruising Motor Yacht, 58 ft. x 12½ ft. x 3 ft. 10 ins. Built 1910 by New York Yacht, Launch and Engine Co.

Accommodations: Main cabin sleeps two, owner's stateroom sleeps two, small stateroom sleeps one. Has large and extra well equipped galley and one owner's toilet and one crew's toilet. Interior finish mahogany.

Boats: One 11-foot tender, one 14-foot motor boat.

Engine: Thirty to 40 H.-P., Naval Type, Twentieth Century 4-cylinder.

This boat is suitable for Florida waters and was used there last winter, cruising from New York to Miami. This boat is first class in every respect, and is thoroughly equipped and furnished, ready for use at a day's notice.

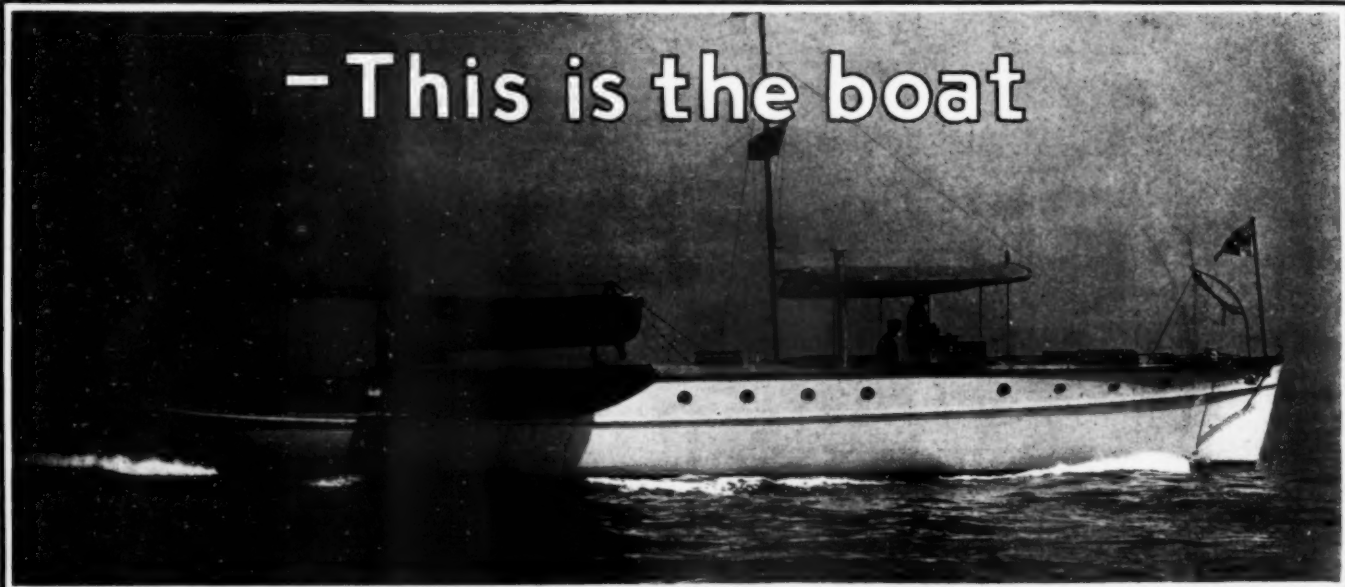
Can be seen at Ulmer Park, Marine Basin, Brooklyn, N. Y., in charge of Capt. G. Lawson.

Cruising speed ten miles. Price attractive.

Address—

F. E. THOMPSON, 69 Haverhill St., Boston, Mass.

- This is the boat



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"From Novice to Pilot," including a complete exposition of "How to Run a Motor Boat." This simple, accurate exposition of the motor boat is by Walter S. Goldie, perhaps the greatest authority on this subject alive today. Strongly bound, printed from new and perfect plates, this masterly book is full of helpful hints and practical, usable suggestions. The work—complete—is offered you *free*.

**Both
Premiums
Are
Free
With**

Free Offer No. 2

Four Water Masterpieces of the most popular motor-boating subjects of the day. "The Racer," "Speed and Spray," "The Troller," "A Close Finish," are the titles of these splendid, alive-with-vigor water scenes. And they're big, too—16 inches long by 10 inches wide. Their beauty in design, execution and artistic merit will be a constant delight to you. All four are offered you—*free*.

MoToR Boating

The National Magazine of Motor Boating

MoToR Boating makes this big two-in-one free offer to you and to every other motor boat enthusiast.

Why? Simply because we want you and every other motor boat man on our subscription roll. We have a message for you each month—a bright, practical, newsy, helpful message, and we want to be sure that you get it without delay.

Look over this copy in your hand carefully, critically. Note the de luxe paper, the artistic type, the splendid covers, the beautiful, striking illustrations—but note particularly, if you will, the vast range of practical, interesting, helpful news brought right to

your finger tips. Remember month by month each issue will be just as good as this one—many even better.

Merely do this:

treatise "From Novice

To secure the famous to Pilot,"



381 Fourth Ave., New York City

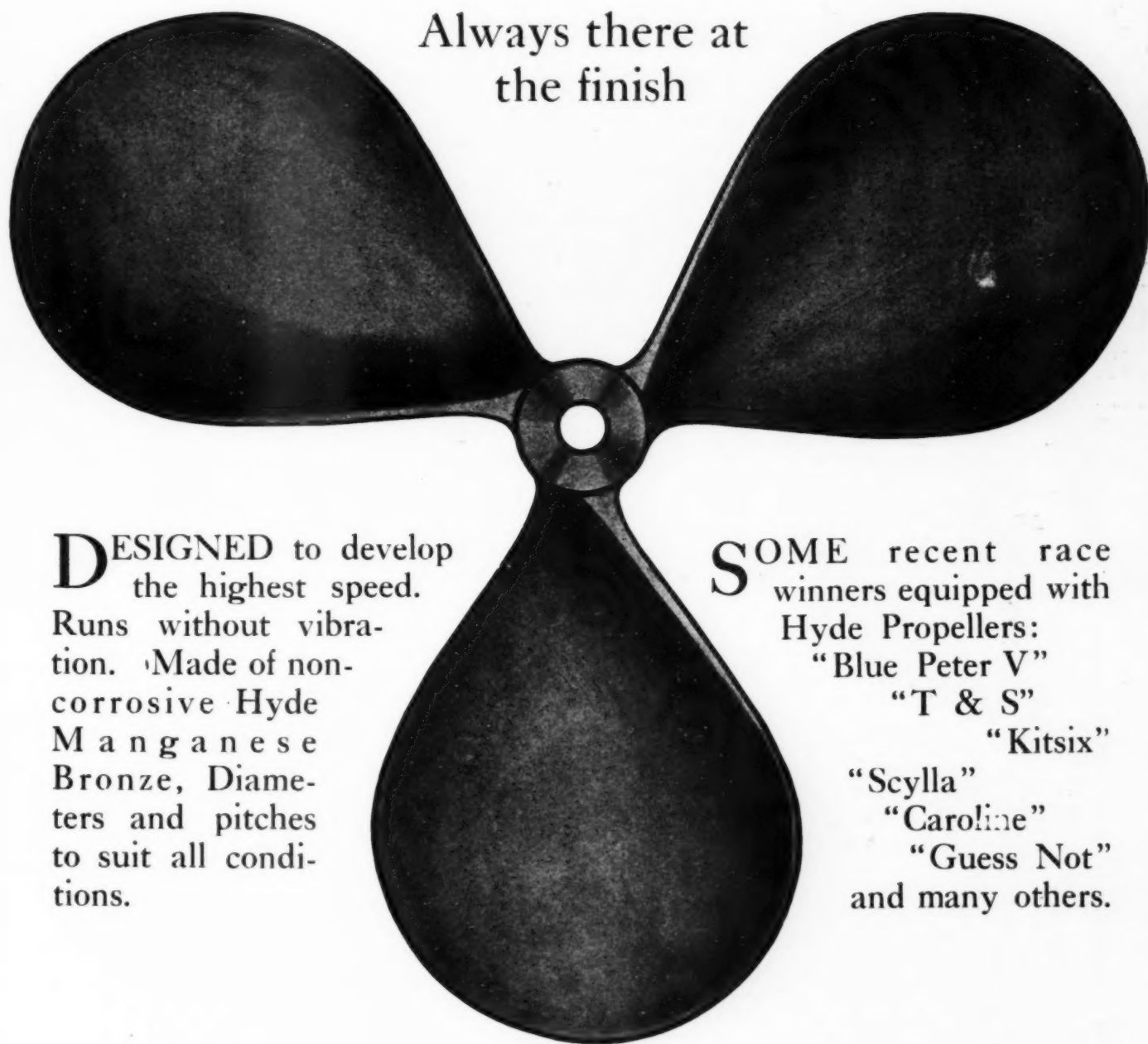
absolutely free, and with it the four beautiful motor boat masterpieces—also free—fill in the coupon opposite, enclosing only a dollar bill, and mail today—at our risk. You will at once receive MoToR Boating itself for six months—in itself a saving of 33⅓% on our regular subscription price of \$3.00—and with it the two premiums absolutely free. Fill in the coupon now.

Fill in - - - Tear off - - - Mail Today
Motor Boating, Room 91, 381 4th Ave., N. Y. City, N. Y.
Gentlemen: Please send me Motor Boating for six
months, and fill in your two premiums for six
months. I enclose \$1.00 at your risk.
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Street.....
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TURBINE TYPE PROPELLER

Always there at
the finish



DESIGNED to develop the highest speed. Runs without vibration. Made of non-corrosive Hyde Manganese Bronze, Diameters and pitches to suit all conditions.

SOME recent race winners equipped with Hyde Propellers:
"Blue Peter V"
"T & S"
"Kitsix"
"Scylla"
"Caroline"
"Guess Not"
and many others.

The Propeller of Quality—

MANUFACTURED BY

HYDE WINDLASS CO. - Bath, Me.

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When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

The Wheel that Leads the World In Speed, Design, Reputation

*Guaranteed to
Increase Speed 1 to 3
Miles per Hour*



*The Product
of Speed Wheel
Experts*

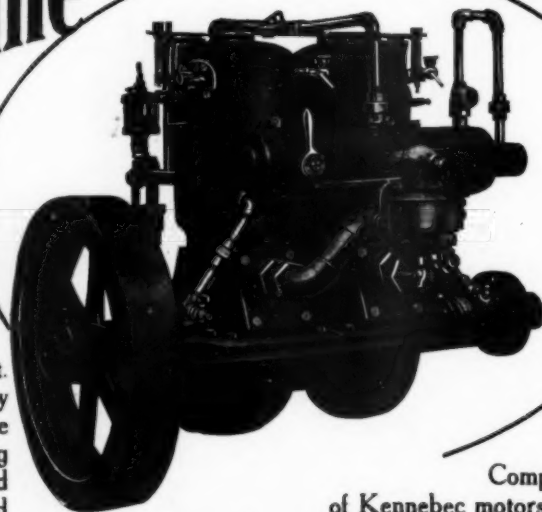
Technically and practically correct. Manufactured by a firm whose market has for years been world-wide. Prospective users are urged to inquire of motor boat owners who use the B. & B. propellers. We stand on past performances. *Your* satisfaction and comfort depend on the wheel you use. *Do not delay your investigation*, write for catalog today. We also make a complete line of launch fittings, fog bells, etc. A descriptive catalog will be sent upon request. Some vacant territory open for dealers. Perhaps we do not have an agent in your locality. Write for dealers proposition.

Eastern Representatives: E. J. WILLIS CO., 85 Chambers Street, New York, N. Y.

BRYANT & BERRY COMPANY, 31-35 West DETROIT, MICH.
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Gasoline

Engines



KENNEBEC

Gasoline Engines are not "rough jewels"—they are "polished jewels" in every respect. They are sturdy enough for the severest working boat usage, and handsome and speedy enough for the finest pleasure boat.

Besides, in the Kennebec you get full-rated horsepower, plus a little bit more. Every Kennebec exceeds its rated horsepower by 30 to 40 per cent.

Compare the bores and strokes of Kennebec motors with those of any other marine engine of the same horsepower.

Kennebec, 1 cylinder: 2 H.P., 3½" bore and 4" stroke; 3 H.P., 4½" bore and 4½" stroke; 5 H.P., 5" bore and 6" stroke.

Kennebec, 2 cylinder: 4 H.P., 3½" bore and 4" stroke; 6 H.P., 4½" bore and 4½" stroke; 10 H.P., 5" bore and 6" stroke.

Kennebec, 3 cylinder: 6 H.P., 3½" bore and 4" stroke; 10 H.P., 4½" bore and 4½" stroke; 15 H.P., 5" bore and 6" stroke.

Be sure to get horsepower for your money

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Torrey Roller Bushing Works, Bath, Maine.

**ASK ANYONE
WHO OWNS A
KENNEBEC**

BE PREPARED

Protect yourself against the loss or damage caused by striking hidden rocks and wreckage, or from burning, sinking, collision and many other disasters, by taking out a policy that covers the usual risks of the boat owner.

Insurance Company of North America

Walnut and Dock Streets
Philadelphia



FOUNDED 1792

Capital	-	-	-	\$4,000,000
Surplus to Policy Holders				
Over	-	-	-	\$7,000,000

It costs but a few cents a day and may
save you hundreds of dollars.



THE Boston AMERICAN is an instance of modern journalism. It has **over 300,000 more circulation** than the next highest evening paper in Boston, and **over 100,000 more circulation** than all the other Boston evening papers combined, allowing them all they claim.

Its total circulation, evening and Sunday, is almost **400,000**.

These are big figures, big for Boston and New England, big for the United States, big for the entire World.

They mean for the advertiser a tremendous buying public. Estimating only three readers to a paper, and the average estimate is four or five to a paper, the advertiser in the Evening or Sunday AMERICAN is talking to over **One Million** people every issue.

Just consider for a moment the significance of a **Million or More Readers**. For sake of comparison imagine a preacher or teacher with a daily audience of over a million; a store with over a million customers a day; an army of a million, or, better yet, a gathering in one place of nearly every man, woman and child in Real or Metropolitan Boston. Imagine every one of such a gathering reading the Boston AMERICAN and you have an accurate idea of this paper's stupendous circulation, influence and advertising value.

The Evening AMERICAN is third in circulation of all the world's great evening newspapers, being equalled alone by the New York Journal and the New York World.

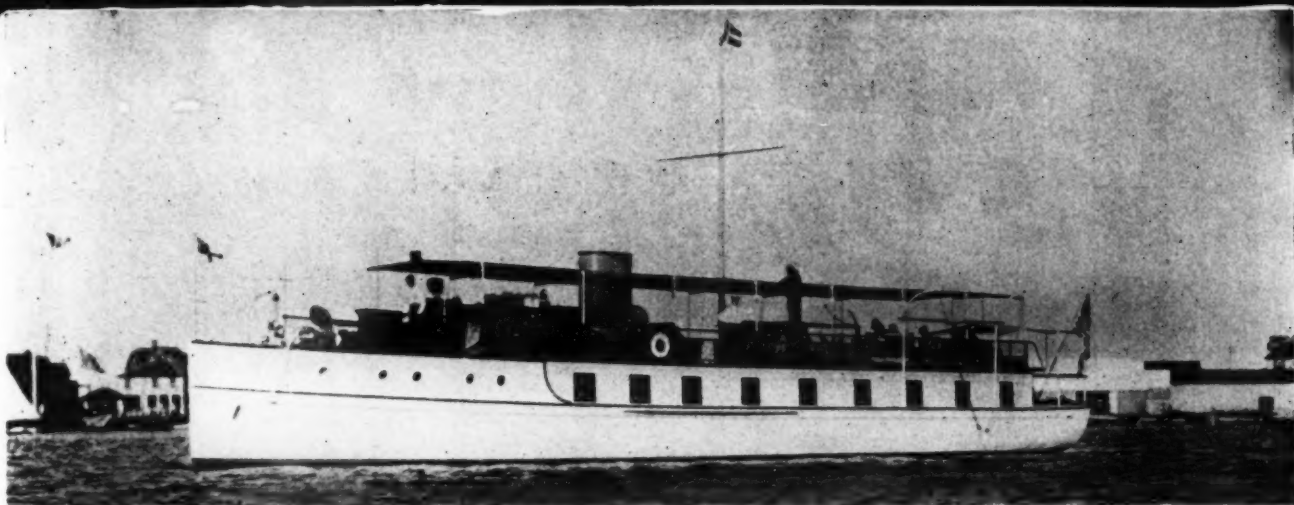
The Sunday AMERICAN leads the next highest Boston Sunday newspaper by over 50,000 and the third highest by nearly 100,000.

The Sunday AMERICAN also ranks as the fourth greatest Sunday newspaper in America, being equalled in circulation by only three others, the New York American, New York World and Chicago Examiner.

The Boston AMERICAN is a newspaper that youths, as well as older people, demand, and the one that **"all live"** merchants use to bring people to their counter.

THE LARGEST CIRCULATION
IN NEW ENGLAND

The most distinctive 90 ft. boat afloat—designed, built and furnished complete by us in 90 days.



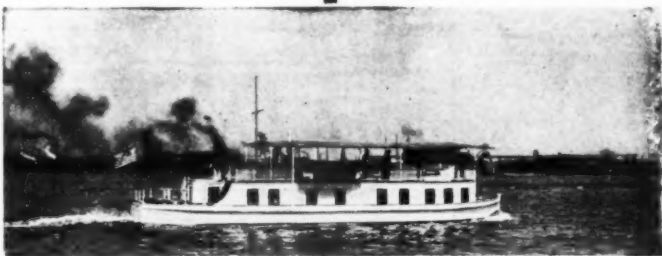
EDNADA III.

A 90-ft. yacht houseboat, designed and built by us for Mr. George C. Thomas, Jr. Conforms in height and width to Erie Canal requirements; has maximum draught for Southern waters; and window shutters and free board for sea-going purposes. Speed, 12 miles an hour.



SYBILLA.

An 82-ft. flush deck yacht, designed and constructed by us for Mr. J. Fred Betz III. Draught, 4 ft. 6 in. Beam, 13 ft. 6 in. Water line, 75 ft. Speed, 15 miles.



COCOPOMELO

the pioneer new type houseboat, designed and built by us for Mr. William Diaston. A 70-ft. houseboat that draws only 18 in.—because of unique tunneled construction.

Average speed, 9½ miles an hour.



LODONA.

A 77-ft. houseboat of Cocopomelo type (slightly yachtier), designed and constructed by us for a prominent member of the Larchmont and New York Yacht Clubs. Beam, 18 ft. 6 in. Draught, 30 in. Twin screw, tunneled construction.

DOWN the Delaware, up the coast, along the Hudson, the lakes and the canals to the St. Lawrence—wherever the Ednada III has gone it has been universally hailed as the remarkable boat of the year. In Florida this winter it will share honors with such boats as the Sybilla, the Lodona and the Cocopomelo—the boat which was the floating marvel of last year's social season in the South. As trim and speedy as any cruiser of its size and type; as comfortable and luxurious as any houseboat; more at home anywhere inland or alongshore than any boat ever before seen—it is small wonder that the Ednada III should create such great interest.

The boat itself is its own best argument for the designing, the building and the furnishing skill which created it. After seeing it, you will wonder how such a boat was ever planned, built and furnished complete in so short a time. The answer is:

Specializing on boats of 60 to 120 feet—

With unequalled facilities for such work

By this policy we have been able to create other notable boats in the past, such as

—on one hand, the 82-ft. flush-deck yacht Sybilla II, which is generally conceded to be the finest boat of its class in these waters—

—on the other, the original, distinctive Cocopomelo, which set a new world's standard in houseboat comfort, speed, appearance and go-anywhere-ness; and the yachtier, speedier houseboat Lodona, the further development of the Cocopomelo type which has attracted so much attention among the members of the Larchmont and New York Yacht Clubs.

Wherever they are seen—from inland Florida to the far Northern bays and rivers—the distinctiveness of these newer type boats has been the subject of much favorable comment.

Any man who is thinking of building or buying a 60 to 120-ft. boat, owes it to himself to learn what we have to offer. State your ideas—we shall gladly make suggestions.

Mathis Yacht Bldg. Co. Specialists in 60 to 120-ft. cruisers and houseboats
Cooper's Point
CAMDEN NEW JERSEY

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THE JOHNSON MARINE REVERSE GEAR

A NEW TYPE FOR 1912

COMPACT

THE SMALLEST ENCASED
GEAR ON THE MARKET

AND

NEAT

AS SHOWN BY CUT
COMPLETELY ENCASED



SILENT

NO NOISE IN RUNNING
FORWARD OR REVERSE

AND

POWERFUL

ALL GEARS *and* FRICTIONS
HAVE A LARGE FACTOR
OF SAFETY

SPECIFY,

JOHNSON

AND

QUALITY

AS A PART OF YOUR 1912 EQUIPMENT

GUARANTEED

FOR ONE YEAR, IF
PROPERLY INSTALLED
AND OPERATED

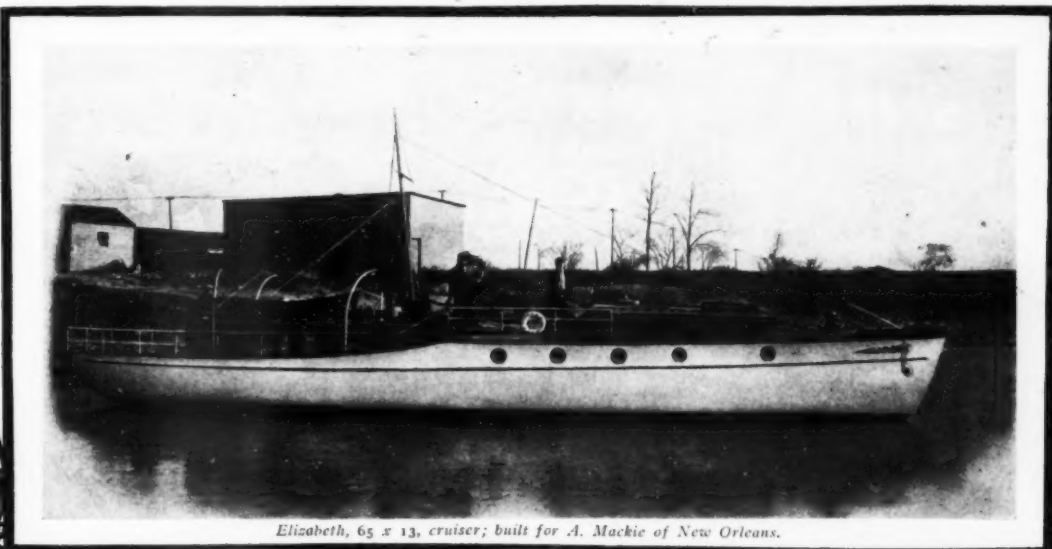
THE GEAR YOU WILL EVENTUALLY USE

PLACE YOUR ORDERS NOW FOR DELIVERY NEXT SPRING

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

WECKLER-BUILT



Elizabeth, 65 x 13, cruiser; built for A. Mackie of New Orleans.

These two words, "Weckler-Built," used in description of any craft, from row boat to cruiser, convey more meaning to many boat lovers throughout the Great Lakes, Central and Southern States, than any other two words in the English language.

"Weckler-Built" implies a degree of individuality and refinement in both design and finish which can only be attained by wide experience, and maintained by close vigilance, in executing the highest class of boats for years past.

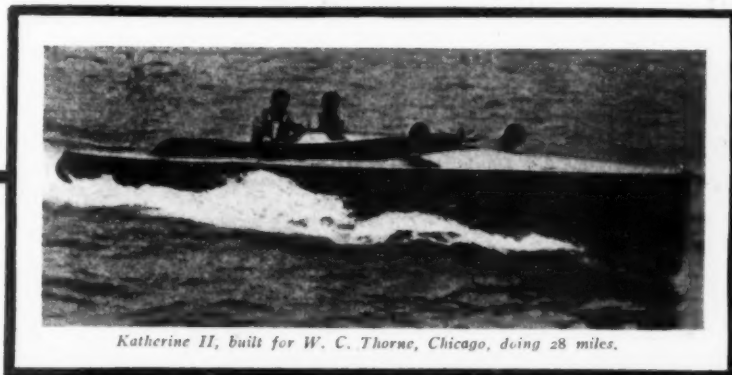
We build all classes of row and sail boats, launches and commercial craft, upon special order, as well as from stock designs.

To Prospective Purchasers of High Class Cruisers

WE invite you to investigate our ability to design and build high class boats of any size and type, as exemplified by the work we have turned out in the past. Perhaps you are satisfied with your present boat builder. We are accustomed to more-than-satisfying our patrons. Inquiry of them will confirm this.

Write us to-day, please. Catalog upon request.

**WECKLER BOAT COMPANY, 2719-21 West Irving Park Boulevard
CHICAGO, ILL.**



Katherine II, built for W. C. Thorne, Chicago, doing 28 miles.

MOTOR
BOATING

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

Leads in Automobile Advertising

For the first seven months of the year 1911, The Examiner carried considerably more Automobile advertising than any other San Francisco newspaper

Automobile advertising, in agate lines, for seven months ending July 31, 1911:

	EXAMINER	CHRONICLE	CALL	BULLETIN
Total for July	32,246	23,441	18,251	14,645
Total for 7 months . .	150,996	148,344	121,477	88,338

Practically every man and woman in this section of California who will buy an automobile this year, or next, is a reader of The San Francisco Examiner.

The San Francisco automobile market is in splendid condition, and automobile manufacturers who take advantage of the present situation have a grand opportunity to increase their sales in this territory.

The decision of the site of the Panama-Pacific International Exposition has quickened all forms of commercial enterprise. Between this date and the year of the great fair (1915) San Francisco will be the greatest money-spending center in the country. THE EXAMINER, as San Francisco's greatest salesman, will continue to produce results for its advertisers.

California now ranks second among the States of the Union in the number of automobiles. With the steady week-after-week increase in automobile advertising in THE EXAMINER it is reasonable to believe that California will soon take first place in the number of automobiles.

The circulation of THE EXAMINER is in excess of 104,000 Daily and 188,000 Sunday—greater than other morning papers combined. You can cover San Francisco, Northern California and Central California with THE EXAMINER alone.



The Best Oil for All Motors

Polarine Oil leaves no appreciable
carbon deposit.

It does not break up or lose elas-
ticity under severe friction.

It makes your motor run better
and last longer.

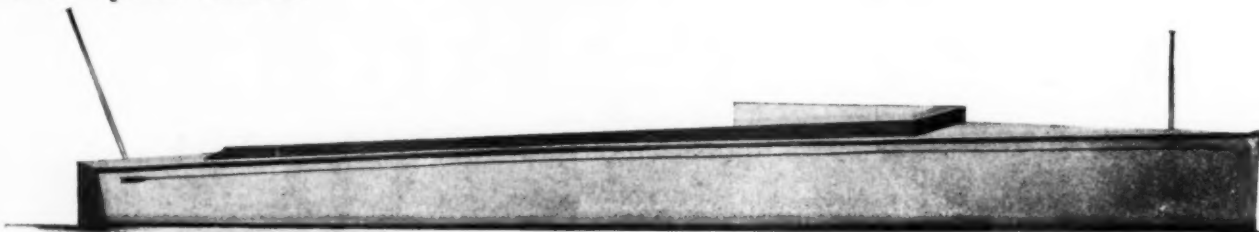
Standard Oil Company
(Incorporated)



Waterman Speed Canoe

A REMARKABLE BOAT AT A REMARKABLE PRICE

The very latest and most approved construction of the popular speed canoe; safe, comfortable and reliable. More than enough speed for all occasions. All Waterman Motors guaranteed for life; price within reach of all. Never before was such a boat offered at such a price as this. Read all about these remarkable speed canoes.



Waterman Speed Canoe, Model A

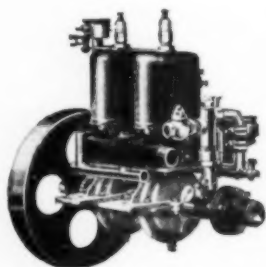
\$550

Wherever this motor speed canoe has been shown it has won the admiration of all motor boat enthusiasts—not only because of its striking appearance and the comfort it provides for all who ride, but the dependable service which it gives all the time, under all conditions. We guarantee a steady speed of at least seventeen miles per hour for this winning speed canoe; faster than most any boat of its size on fresh water. For years this model has been in continuous service all over the world; it is the most satisfactory speed canoe ever built. Boat measures 20 feet in length with 3½-foot beam; carries four passengers very comfortably. The motor is our special 2-cylinder light weight speed canoe special motor, developing 12 horsepower and developing it all the time. You can operate this motor with real economy. You can't buy a better motor than the Waterman. **Write for our special speed canoe catalog;** it fully describes. Get all the facts about this remarkable speed canoe. Get our catalog.

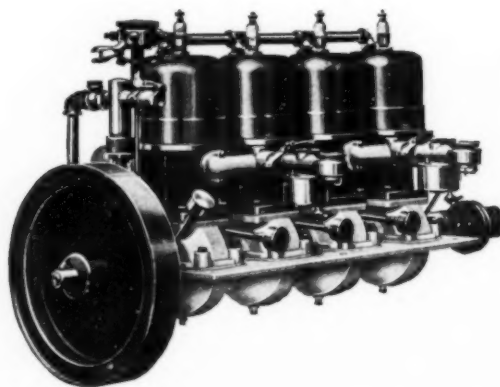
Waterman Speed Canoe, Model B

\$750

This model only differs from Model "A" Speed Canoe in the fact that it is equipped with that most powerful of all speed canoe motors, the Waterman Model B, 4-cylinder motor, which develops 24 horsepower, which drives this speed canoe at a rate of 22 miles per hour. We guarantee 22 miles for this model, but repeatedly it has attained 25 miles per hour. Here is a boat that just runs away from all other small speed boats. The hull is made from light cedar over broad, flat ribs and selected Maine spruce; has a 6-foot deck forward with coaming; coaming and fore and aft decks and transom made of finest mahogany. Boat comes complete ready to run and keep running. These boats are absolutely seaworthy and we prove to you that you cannot duplicate this splendid speed canoe at double the price. We guarantee a speed of 1 mile per hour per foot length. **Write for our catalog** which describes these speed canoes in detail.



**Motors
Guaranteed
For Life**



Waterman Marine Motor Company

1531 Fort St. West, Detroit, Michigan

Better send a post card for this Catalog.

Before you buy a battery you should know all the important reasons why

The Edison Storage Battery

for ignition of motor
boats, for electric
lighting of motor
boats, yachts, house-
boats and for electric
launch propulsion

costs more and is worth *many times*
more than any other storage battery.

We have the complete information
ready to send you. Write for it today.

Edison Storage Battery Company

142 Lakeside Avenue, Orange, N. J.

DIXIE IV

(In the International Races)

USED



Read What Her Owner Says:

APRIL 28, 1911.

WOLVERINE LUBRICANTS COMPANY,
80 Broad Street, New York.

GENTLEMEN:—I beg to state that in our new boat, Dixie IV, which we shall race this season in the World's International Motor Boat Races, nothing but your Wolf's Head Heavy Crystal Oil will be used.

We have tried nearly every oil manufactured, but find this oil gives us the very best results.

This quality of oil was formerly manufactured for us by your President, Mr. Tomlinson, and we would not feel confident of getting the same oil, regardless of its name, unless it were produced under his personal supervision.

Yours very truly,

(Signed) FRED. K. BURNHAM,
Vice-Commodore Motor Boat Club of America.

Wolverine Lubricants Co. of N. Y.

MAIN OFFICE: - - 80 BROAD STREET - - NEW YORK

CHICAGO PHILADELPHIA BOSTON ATLANTA WASHINGTON
3506 So. Morgan St. 119 North Front St. 224 Milk St. 702 Candler Bldg. 525-527 Colorado Bldg.

W. P. FULLER & CO., Agents for all Pacific Coast Cities, Australia and New Zealand

ANDERSON MARINE ENGINE

**"SEE THAT GET-A-WAY?
Not a Snort—Not a Pop—
Just a Gentle Purring."**

NOTHING strange about that. It is the usual Anderson Performance. A study of the Anderson Engine book will explain. Those big 4 and 6 cylinders with 7 and 9¼ inch bore and extra long stroke account for such performance.

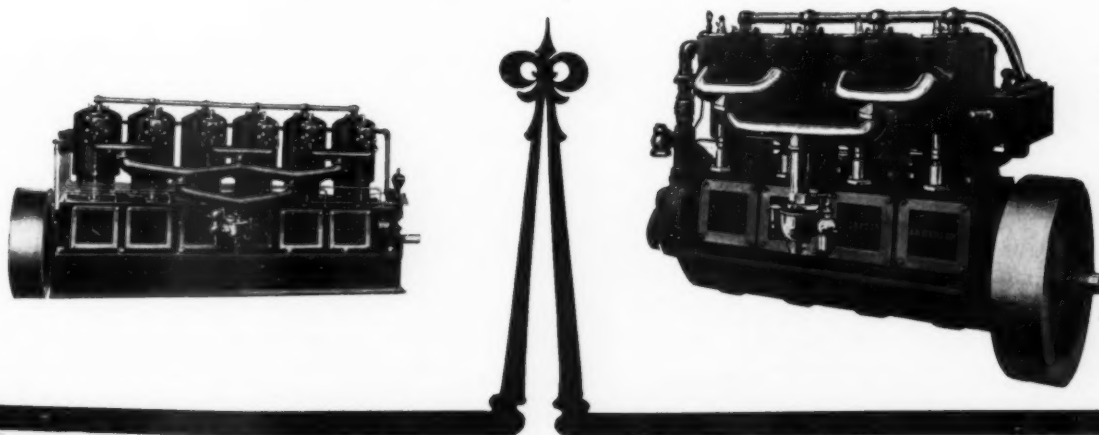
The Anderson 1 and 2 cylinder engines have long been

recognized as the best low priced marine engines made. The new 4 and 6 cylinder styles have set new standards of Efficiency and at prices that compel attention.

Gentlemen: We've got the goods. Get our engine book before you buy any engine at any price. It will pay you.

ANDERSON ENGINE CO.

SHELBYVILLE, ILL., U. S. A.



When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

Don't Forget
Annual Buyers' Reference
and Export Number



December Issue

The buyer's impression of the manufacturer is formed entirely from his advertising—from its appearance, its size and its persistence.

The manufacturer who can please those customers near by can just as well please and sell the hundreds and thousands of possible customers farther away—if he will only reach out and tell them about his product in a way they will remember when they buy.

The possibility of making an impression is dependent upon reaching them at the right time, and the depth and quality of the impression depends upon the buyer's confidence in the medium of advertising.

The Annual Buyer's Reference and Export Number of MoToR BoatinG, published in December, is the right medium at the right time. For any manufacturer to be without representation in this issue is like neglecting to answer his name at roll-call or refusing an A-1 rating in Bradstreet.

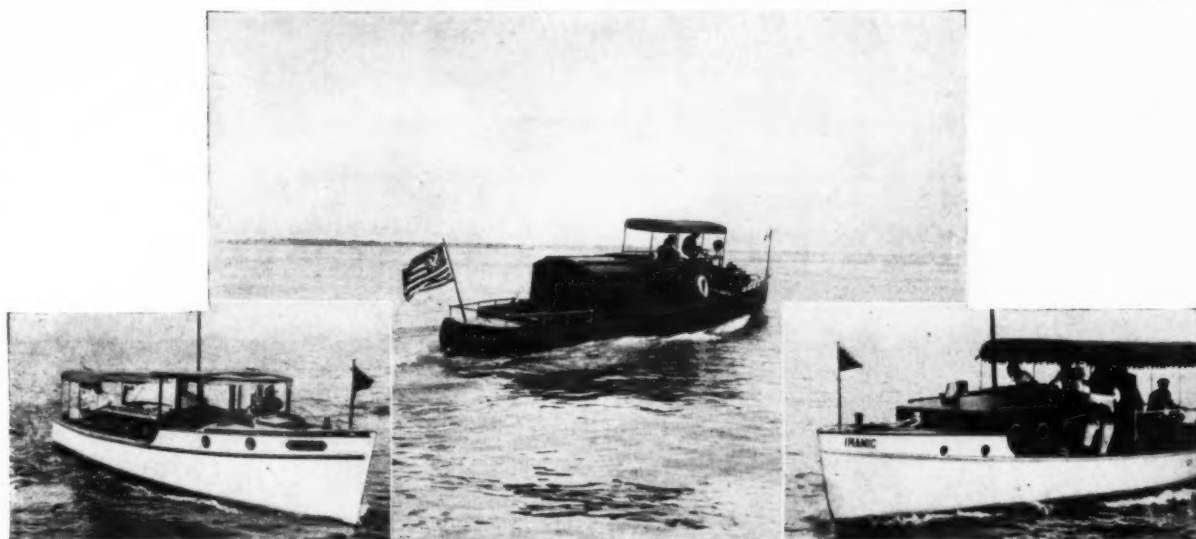
Every issue of MoToR BoatinG has been proven a profitable advertising investment, but the December issue is the nearest of any to securing a whole year's advertising with one insertion. This issue is actually a Buyers' Reference Number—a complete catalog of the marine industry.

Because of its special character, The Buyers' Reference Number is the one issue of the year which is not only studied from cover to cover when first received, but is actually put away to be referred to when the purchase of anything new is under consideration. In this way its advertising continues to be effective long after the issue is succeeded by others.

Every advertiser is warranted in using maximum space in this issue. Although its unusual and extra advertising value is unquestioned, the advertising rates will remain the same as for regular issues. Beyond this we have a special proposition in conjunction with this issue which we will be glad to outline upon request.

MANUFACTURERS: *Whether you advertise in MoToR BoatinG (or any other publication) regularly or not, do not neglect to save a place on your advertising appropriation for the December issue of MoToR BoatinG. In the meantime write for information regarding the special proposition offered in connection with this number. Address*

JOS. S. HILDRETH, MoToR BoatinG
Advertising Manager, 381 Fourth Ave. New York City



THREE BUFFALO ENGINES

Finish Scripps Contest with PERFECT SCORES

JANET.

Janet with her 15 HP *Buffalo* Heavy Duty made the long run without a skip. All they did was give her oil and gasoline, and she didn't use very much of that. After the cruise was ended the judges searched her for possible defects as they did all the boats with perfect scores, in the hope of breaking the tie, but they couldn't find a thing wrong.

L. E. R., JR.

L. E. R., Jr. made the finest showing of all from the engine builders' view point, for her motor is not a cruising engine. It is a 90 HP *Buffalo* high speed engine, designed for a racing boat. The fact that L. E. R., Jr. was first in every night not only proves her speed, but more important, that a racing engine should make a long distance run for cruisers with perfect score, proves what has been said about the endurance of *Buffalo* engines.

INAMIC.

Inamic, awarded the Pirate Cup for the best all around performance, the only distinction made between the winning boats, is equipped with a 15 HP *Buffalo* heavy duty engine. It ran all through the eight-day cruise without a single miss, and careful examination by the judges failed to show the least suspicion of trouble.

"The Engine of Constant Service"

COULD any more conclusive proof be offered of the superiority of *Buffalo* engines than the result of the Scripps Reliability Cruise? Three of the four *Buffalos* in the contest finished with perfect scores. The fourth was withdrawn because of illness in her owner's family. The few points that were charged against her were lost through trouble with her coil, and the breaking of a bell rope, and not one point was lost through failure of the engine to do its work.

One of the *Buffalo* "herd" was first in every night.

When you consider that the conditions under which this cruise was run were fixed by a committee

of the best-known power boat men in the country, and arranged with the sole object of providing a reliability test for cruising motor boats, doesn't it prove *Buffalo* reliability and endurance beyond a reasonable doubt?

If one *Buffalo* had completed the long run down the lakes with a perfect score it would have been a good indication of quality, but the performance of three *Buffalos* is proof.

Buffalo Gasolene Motor Co.
1202-16 Niagara Street. Buffalo, N. Y.



In Any Engine Test—On Any Engine Fuel—“Perfection” Engines Make Good Records

IN every corner of the earth, in storm and calm, on tidewater and stream, Caille “Perfection” Marine Engines are serving the world’s pleasure and doing the world’s work.

Their simplicity, their reliability and their tremendous power make them appeal equally to the sportsman, the tourist and the commercial boat owner.

All the intricate moving parts that make constant attention and repairs a necessity with ordinary engines have been eliminated.

The “Perfection” often gives a tow but never asks one.

The “Perfection” Saves Repair Money and Burns Any Fuel

“Perfection” Engines work equally well with gasoline, kerosene, distillate or any other engine fuel. And you don’t have to be an engineer to handle them—any one can run a “Perfection” with very little practice. With proper handling it’s impossible for it to get out of order.

Yet though the “Perfection” Engine is so wonderfully powerful, you’ll be surprised at the smoothness with which it runs. It gets there, and gets there first, but it doesn’t tear the vitals out of the boat to do it.

Handsome Motor Boat Book Sent Free on Request

You ought to have this interesting, beautifully-illustrated booklet describing the various sizes and types of “Perfection” Engines. We’ll be glad to send you a copy for the asking.

The single-cylinder engines are made in 2, 2½, 3½, 4, 6 and 8 H. P. The two, three and four-cylinder engines range from 7 to 30 H. P.

CAILLE PERFECTION MOTOR COMPANY

103 Caille Street,

Detroit, Michigan



"We have run Sand Burr II over 2000 miles at World's Record Speed without a particle of engine trouble."

A. K. & C. D. White, Atlantic City, N. J.

Winner International Speed Trophy at Huntington Bay.

Winner 75-mile National long-distance open Championship.

Winner of 1-mile 20-foot Championship U. S.

Winner of 30-mile 20-foot Championship U. S.

Winner of 60-mile 20-foot Championship U. S.

Winner Delaware River Championship, Wilmington.

Winner 20-foot free-for-all Championship W. P. B. A., Peoria.

Winner 26-foot free-for-all Championship W. P. B. A., Peoria.

Winner 32-foot free-for-all Championship W. P. B. A., Peoria.

Winner second in 40-foot free-for-all Championship, Peoria.

Winner 20-foot Championship of Great Lakes, Detroit.

Winner 12-mile free-for-all Dupont Trophy, Cambridge.

Winner Southern Championship Dupont Trophy, Cambridge.

Winner 12-mile handicap and Dupont Trophy, Cambridge.

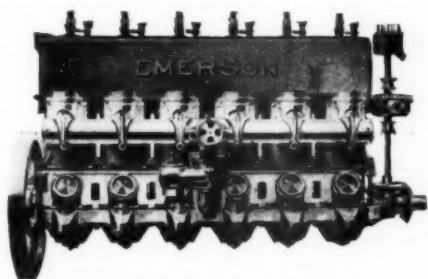


SAND BURR II, THE BOAT

Winner Atlantic City Championship and trophy.

Winner Altons Harbor Yacht Club Championship Trophy.

Holder of world's record for 20-foot boats in competition.



100 H. P. 325 lb. engine, 6 cylinders
60-70 H. P. 225 lb. engine, 4 cylinders

Write for Catalogue "S"

The Emerson Engine Company, Inc.

Alexandria, Virginia

MADE BY GUNMAKERS

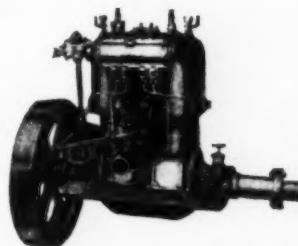
16-20 H. P.

FOR 30 DAYS ONLY
NO DISCOUNT

GOES LIKE A BULLET

\$200.00

We are catering to, and are getting, the highest grade, highest powered, most critical engine trade in America. To do this we employ a corps of skilled mechanics, who demand, and can get, a wage that would make their employment impracticable in an engine factory devoted to "commercial" engine building and nothing else. Most of these men are gunmakers who have spent years in the government gun shops. It has taken years to get this skilled force together and to keep them intact for the rush season, we make the two-cylinder engines during the duller period. This enables the customer to get an engine made by this skilled force instead of investing in a motor that is made by the cheaper labor that strictly "commercial" engine building demands. The price is no greater than the commercial article. Write for catalogue "B."



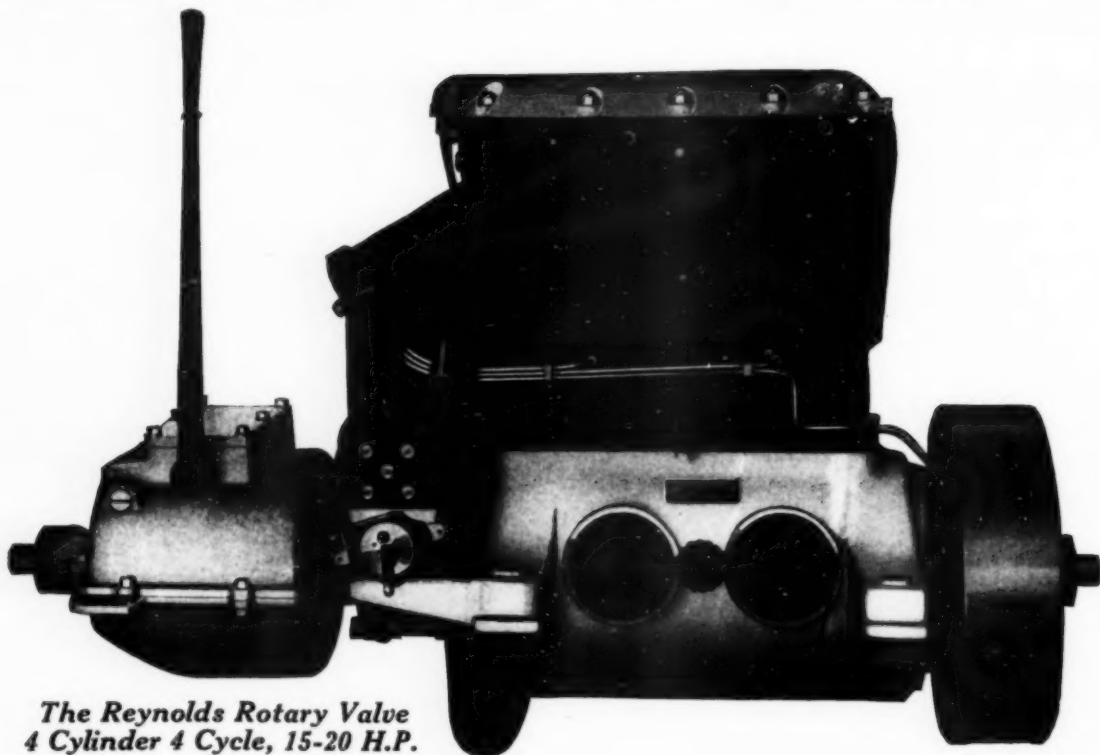
THE EMERSON ENGINE COMPANY, Inc.

ALEXANDRIA, VIRGINIA

J. R. WESTERFIELD, 1737 Broadway, (Buick Bldg.) New York Representative

REYNOLDS

ROTARY ⚙ VALVE ⚙ MOTORS



*The Reynolds Rotary Valve
4 Cylinder 4 Cycle, 15-20 H.P.*

ANNOUNCEMENT

THE Reynolds Rotary Valve Four Cycle Marine Motor has gone through the season of 1911 with an absolutely perfect score.

Every motor we have sent out is working perfectly in the hands of a "Reynolds" enthusiast.

This is the exceedingly gratifying result of the three and a half years of thorough preparatory work which preceded the placing of this new type on the market.

Their unqualified success has decided us to undertake the production of these motors on a greatly increased scale. Naturally our manufacturing cost will be correspondingly reduced, and we are in position to announce a cut in price, which must surely interest deeply every man who is looking for an extremely high grade motor at a moderate price.

Our present 15-20 H. P. motors have been selling, complete, with magneto, reverse gear and tool equipment, at \$500.00. Taking effect immediately, the price on these motors is reduced to \$375.00 with our splendid standard of workmanship and materials maintained at the same high point.

It is conceded on every hand that the days of the "poppet valve" are numbered—Something simpler, quieter and free from care and adjustments has got to come.

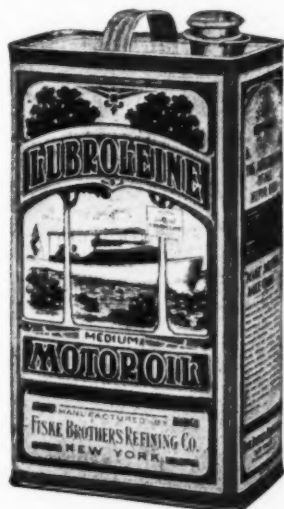
The Reynolds Rotary Valve Four Cycle is now a thoroughly proven success. It employs only a little over one-third as many parts as the average poppet valve four cycle, has no reciprocating parts other than the pistons and connecting rods—and not a spring of any kind in its construction.

Give us an idea of your power requirements and let us tell you what we can do for you.

REYNOLDS MOTOR CO., 200 Hillger Avenue, DETROIT



**North, South, East or West
Lubroleine Oils lubricate best**



LUBROLEINE OILS

"Make Motors Make Good"

These lubricants, made in three grades (light, medium and heavy), are refined and manufactured from the finest Pennsylvania crude and will positively meet the most exacting lubricating requirements of automobile, marine, aeroplane and cycle motors, either horizontal or vertical, air or water cooled, single or multi-cylinder. Their purity and uniformity, likewise adaptability under any working or atmospheric temperature, make them the logical economical lubricants worthy of the unqualified endorsement of discriminating motorists.

Our Booklet, "The Mission of Lubroleine," also tells about Phoenixo Gear Case lubricant for transmissions and differentials, and Climax Synovia for axle bearings and cups.

DEALERS: It is easier to sell an article of merit and reputation than one of unknown quality.

FISKE BROTHERS REFINING CO.

ESTABLISHED 1870

NEWARK, N. J.

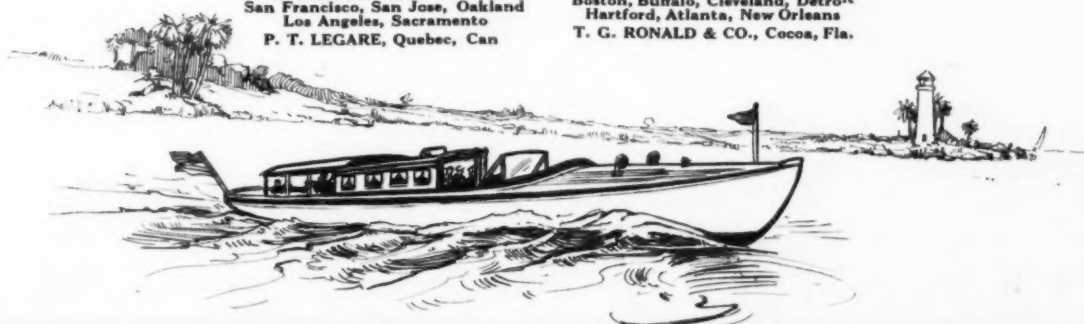
NEW YORK

PITTSBURGH, PA.

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When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

Gray Motors look just as good in Your Boat as in our Catalog

Some fine art work—fine paper—a good printer and some nicely worded English can make any engine look good in a catalog.

The important question, however, is how is the engine going to look and how is it going to act after being installed in your boat?

Thousands of people in the past few years have selected their motors from our catalogs.

Those same people are now our friends—they are now boosters of Gray Motors and firm believers in the Gray Motor Company and its policies.

The reason is simple indeed.

We never make exaggerated claims about our products—we make no statements that we cannot back up to the limit.

We make our catalog as instructive as possible—the descriptive matter is simple and concise—no frills or big talk—just plain, honest facts. The engine pictures are made from *real* photographs of *real* engines—not faked-up drawings by some clever artist.

By so doing we have built up the largest marine engine business in the world—we have made friends and customers by the thousands in all parts of the world—people have confidence in us and our product—they have found that our catalog statements are true statements.

They have found that Gray Motors *always* develop more power than our rating calls for.

They have found that our outfits and marine engine equipment are the very best—that they got a square deal every time and that we never consider a sale complete until the engine is installed and giving perfect satisfaction.

They have found that the prices we advertise in various publications always agree with our catalog prices—that our prices are always for *complete equipment*.

They have found that our claims about high grade material—careful workmanship—splendid facilities, etc., are real facts—hundreds of our customers have personally visited our factory and seen all these things for themselves.

If you are interested in marine gasoline engines we want you to know more about Gray Motors—it's to your interest.

Write for our big catalog—you'll find it a real education in marine motors—their use—care and operation—construction—design and finish.

We can make *immediate* shipment if you want your engine in a hurry.

The Gray Motor Co. has always believed in advertising prices in plain figures

3 H. P.
Guaranteed to develop 4 h. p. Same material and workmanship as our \$528 motor. Complete outfit ready to install
\$60
Made in 3, 4½ and 6 H. P.

12 H. P.
Very sturdy and compact. Noted for the excess power they develop. Complete outfit ready to install
\$188
Made 9 and 12 H. P. sizes

Model "T"
Has many exclusive features of great value. Most accessible marine engine ever built. Complete outfits
\$115 and upwards
Model "T," built in 1, 2 and 3 cylinders, 7 to 36 H. P.

Made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of Two-Cycle Motors

GRAY MOTOR CO., 1022 U.S. Motors Bldg., DETROIT, MICH.

Canadian Gray Motors Ltd., 1022 River Front St., Walkerville, Ont.



Highest in Everything Except Price

Every EAGLE engine made is a challenger. It will stand the test at every point---price, bore and stroke, horsepower, rating, equipment, etc. Even the finish is especially durable, impervious to salt water. EAGLE engines are simply constructed---and their reliability, economy, and durability is known. With our exclusive method of oiling, long usage is assured.

We want everyone contemplating the purchase of an engine---for a small working boat, or a pleasure boat up to 45 feet in length---to investigate

EAGLE ENGINES

These engines are made in powerful heavy duty and semi-speed types, including 15 distinctive models. They are built particularly for general service---and plenty of it.

Of the 2 cycle type, they range from 1½ to 25 horsepower, and are made in 1, 2, 3, and 4 cylinder models.

The fittings supplied with each engine---carburetor, silencer, ignition outfit (make and break or jump spark in the popular sizes), shaft, propeller, etc.---are the well-known standard selected strictly for quality and efficiency.

The finish, too, is an item of special attention. A durable enamel is laid on in four coats, and subjected to 300 degrees of heat for two hours after each coat. Exposed steel parts are heavily nickel-plated over a heavy coating of copper.

Inspect them---compare---see for yourself that they are *"the best from every point of view."*

Our catalog describes the engines in detail;---send for it.

THE EAGLE COMPANY, 98 WARREN ST. NEWARK, N. J.

DISTRIBUTORS

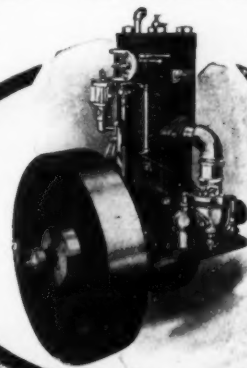
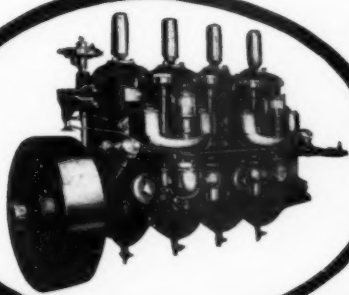
Boston, Mass., A. P. Homer, 156 State Street.
Baltimore, Md., 306 So. Hanover Street.

CYL. SEMI-SPEED TYPE

Houston, Texas, The Barden Electric & Machinery Co., 109 Main Street.
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51-2 H.P. HEAVY DUTY

MOTOR
BOATING



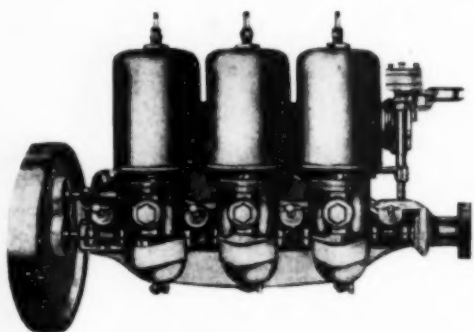
PIERCE-BUDD

Marine Engines

For All Pleasure Craft

"ASK AN OWNER"

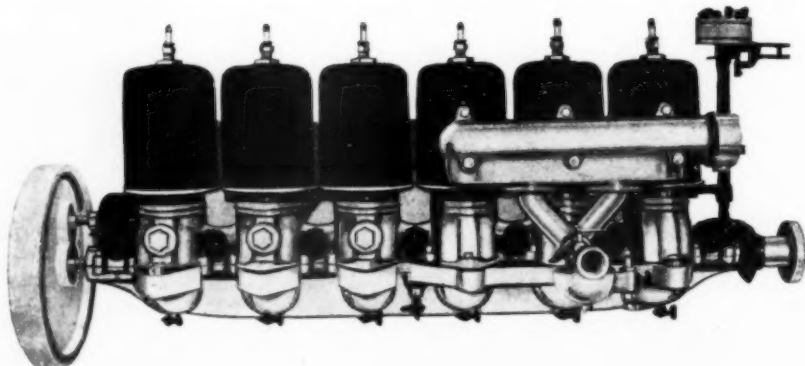
Don't think of the Pierce-Budd as a motor for racing boats only. True, it has earned an enviable reputation in this field, but please remember there is a Pierce-Budd for *every type of pleasure craft*



A better engine than a Pierce-Budd cannot be built. Whether you want a one, two, three or six cylinder, for run-about, hydroplane or cruiser, you couldn't do better than install a Pierce-Budd.

Simplest, Lightest, Most Powerful Engines Made

of their bore and stroke. The greatest H. P. for weight. Prize winners in speed contests—satisfaction winners in ordinary daily service. They have the speed of a racer with the reliability and durability of a heavy-duty engine.

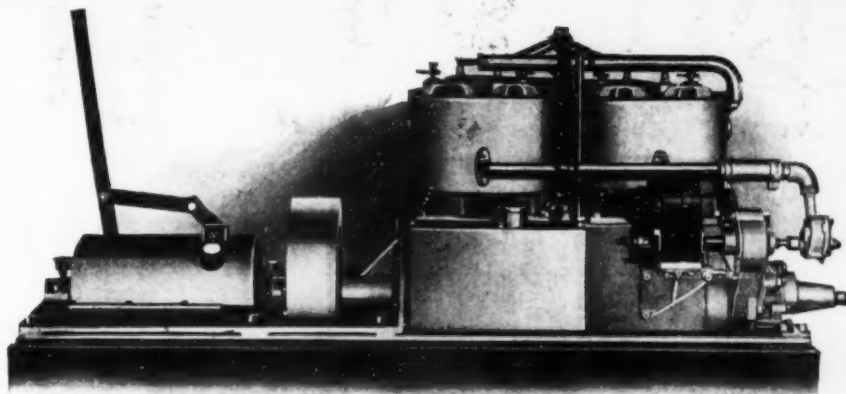


Write us today for catalog and detailed specifications of the several Pierce-Budd models. Don't decide on any engine until you
"ASK AN OWNER"

Pierce-Budd Company
Bay City - - - - - Michigan

The Right Motor

Oakland
20-32



Every motor boat owner requires first of all, *reliable power*.

The Oakland 20-32 engines are reliable. They are of the 4 cycle type---the type which is now established as by long odds the most reliable. This type is used almost exclusively in automobiles. Alanson P. Brush, designer of several well-known motor cars designed this marine engine. A well-made 4-cycle engine is economical, quiet and smooth running, easy to start, and least liable to engine troubles.

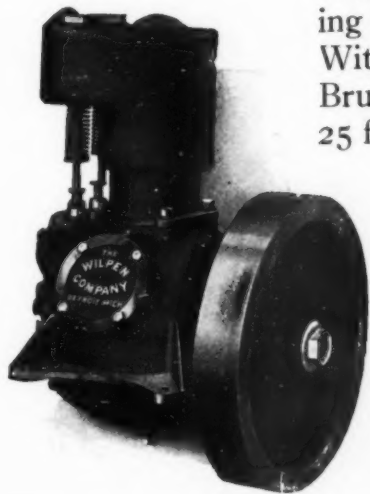
The Oakland 20-32 combines these qualities, and added to this ---it is lower in price than any other high grade motor on the market to-day.

The Oakland 20-32 is a compact, carefully tested engine---it is the strongest pulling motor of its inches ever designed.

The Brushmarine 3-5 H. P.

We also make the Brushmarine, another 4-cycle engine. This engine is the Brush Balanced single cylinder motor used on the Brush Runabout, adapted to marine requirements.

The Brushmarine is a reliable, economical, durable engine, giving no more vibration than the ordinary *two* cylinder engine. With the high-grade materials and workmanship involved, the Brushmarine gives very satisfactory service in hulls from 16 to 25 feet in length.

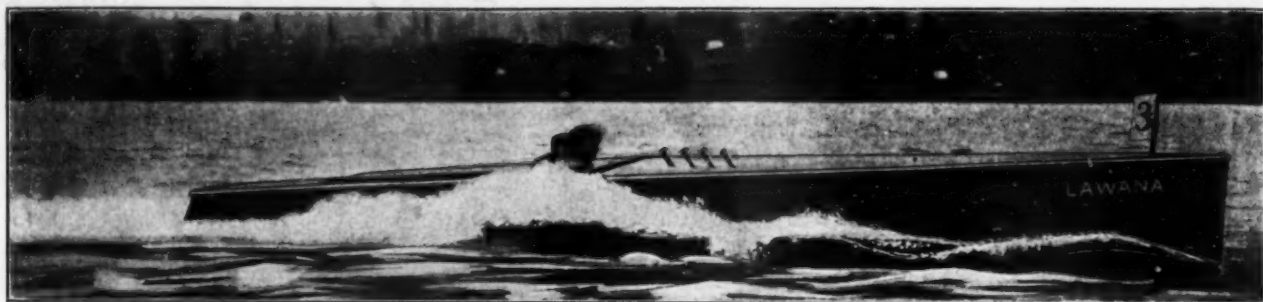


Special Demonstration Proposition to Agents

Write for Catalogue

The Wilpen Company

100 to 110 Bates Street :: Detroit, Michigan



LAWANA OF SEATTLE AT 29.3 MILES PER HOUR WITH HER 40 HP. ROBERTS

The Fastest Boat in the World OF BUT 40 HP. AND OF THE **Is Equipped With a**
DISPLACEMENT TYPE
FOUR CYLINDER FORTY HORSEPOWER

ROBERTS MARINE MOTOR

THE MOTORS THAT NEVER BACKFIRE

What does this signify? It signifies that ROBERTS Horse Power is genuine Horse Power—not a mere catalog rating. When you select a ROBERTS Marine Motor for your hull you are sure of getting exactly the Horse Power you pay for.

The honest rating—the unfailing service—and the high standard of quality make ROBERTS Motors unquestionably the best money value in two cycle motors on the market.

A ROBERTS will power your fishing dinghy—your pleasure launch—your cruiser—your work boat—and your speed boat—all—with that perfect satisfaction so essential to make you thoroughly satisfied with your investment.

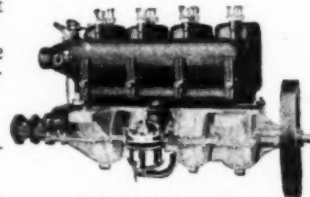
ROBERTS Motors are manufactured on a strictly quality basis according to a scientific design by men who are skilled in each operation, and of materials that have been accepted as standards for the highest classes of machinery.

ROBERTS Motors are built in nine sizes, three to sixty HP., one to six cylinders, in eighteen models—standard and special "Aerolite" types—which offers the proper selection of a model best suited to any particular hull.

We are offering at a remarkably low figure, a few 1911 models, to make way for our 1912 line. The few which we have will be disposed of rapidly, and we therefore urge that you ask for full particulars at once.

Our catalog will interest you. It will be mailed upon request.

We have an unusual opportunity to offer "live wires" in certain localities, who may be interested in representing ROBERTS Motors.



MODEL 4-P, 40 HP.

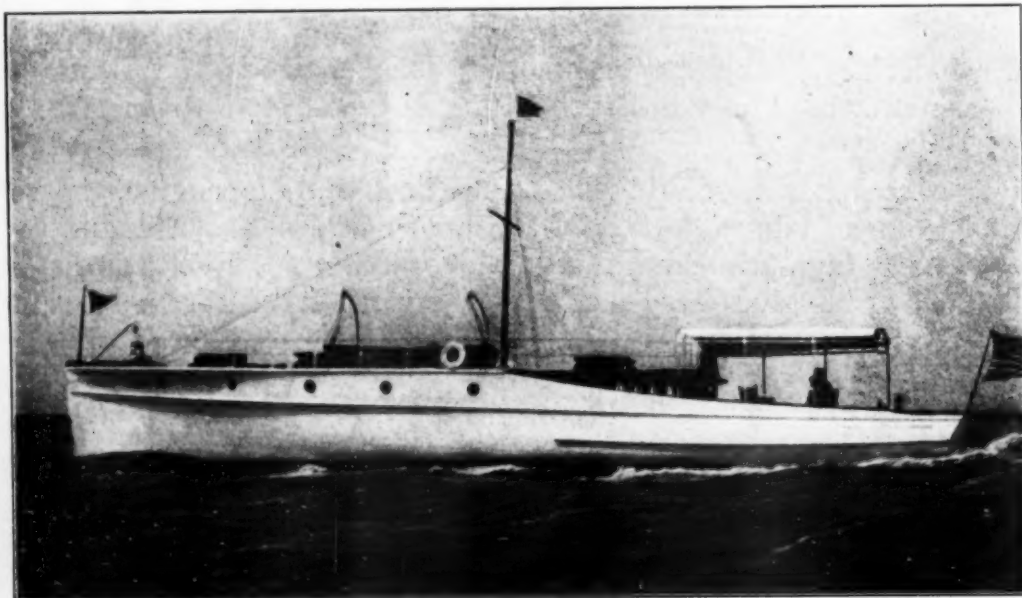
THE ROBERTS MOTOR COMPANY,

1501 Columbus Ave.,

Sandusky, Ohio

The LAMB

The Motor That Is Guaranteed As Long As You May Own It



WEEPOOSE, owned by Mr. Chas. S. Thorne, of New York City, designed by Morris M. Whittaker. The dimensions are:—Length over-all, 60 feet; Beam, 12 feet; Draft, 3 feet 6 inches. Her motor is 60 H.P., six cylinder heavy duty Lamb. Speed 12 miles per hour.

It is a wonderfully smooth and quiet running motor. It is very powerful, absolutely reliable, and its range of control is nothing less than marvelous.

The Lamb line includes a motor suitable for virtually every size and type of boat.

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Lamb Boat & Engine Co.
CLINTON, IOWA

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Lamb Engine Co. of New York
30 CHURCH STREET
Eastern and Foreign Distributors



A Pretty Blue Flame

Sending forth the maximum of heat, and without smoke or odor, dust or ashes, is what you cook with in

PYRO MARINE STOVES

Constructed of galvanized iron, portable, and so small that they can be attached to a shelf when in use, or tucked away in a corner of a closet after the meal is prepared, these stoves are indispensable for water craft of all kinds. In three sizes, one, two and three burners; ranges built to order.

THE
FUEL

PYRO

DENATURED
ALCOHOL

Is as clean as spring water. No foul smells in the galley, and no ugly stains on the floor such as are left by a kerosene can. If you accidentally spill Pyro it cleanses, then evaporates.

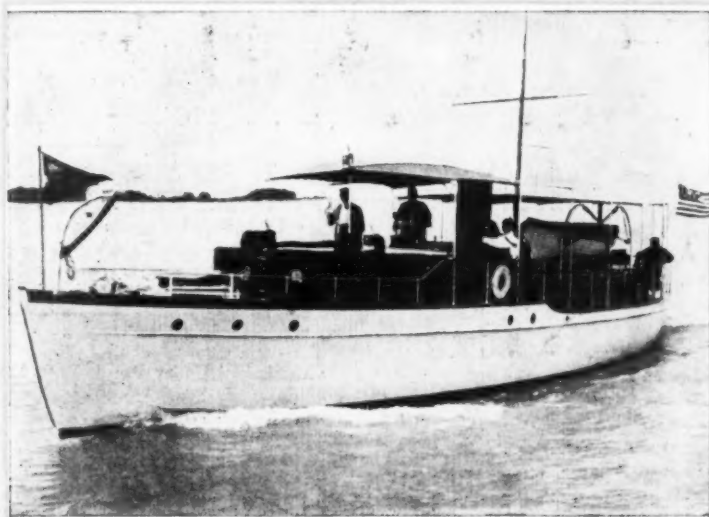
Pyro Stoves Cook Everything

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THE ALCOHOL UTILITIES CO., 40 East 21st Street, New York City

MATTHEWS
CRAFT



MATTHEWS
CRAFT

Every Order Must Make Good

Ask Any Owner

THE cruiser in the accompanying illustration is the second built by us for M. B. Grover, of Cleveland, Ohio, the first being a 51 x 11 ft. mahogany finished cruiser. The following letter has just been received:

THE MATTHEWS BOAT COMPANY,
PORT CLINTON, OHIO.

Gentlemen:

My captain will arrive with the Leonor II at your basin to-day, where I shall leave the boat for a few days. It is most opportune at this time, having just completed a trip through the Northern Lakes, to tell you how well satisfied I am with the yacht.

The Leonor I which you built for me, gave much pleasure and brought out the features of high-class workmanship and finish, with thoroughly sound construction.

In placing my second contract with you for the 66 ft. cruiser, I find that you have taken advantage of every improvement possible and have left nothing for me to desire further in the way of first-class workmanship and design. Some very flattering comments have been made concerning your work by men who really know a boat when they see one.

The pleasant business relations during the construction of the boat, have been very gratifying to me and have only gone to increase my confidence in the work of your firm.

Yours respectfully,

(Signed) M. B. GROVER.

THE MATTHEWS BOAT COMPANY,

BUILDERS OF HIGH GRADE MOTOR
BOATS AND YACHTS

PORT CLINTON, OHIO

STERLING

THE ENGINE OF REFINEMENT
FOR THE FINEST BOATS THAT FLOAT



NEW YORK YACHT CLUB
STATION NO. 6
Newport, R.I., July 25, 1911.

Sterling Engine Co.
Buffalo, N.Y.

Gentlemen:-

There is a great satisfaction in having a good engine in any boat, and I wish to say right here that I have enjoyed satisfaction with my fast cruiser "Barota" since I launched her in Camden, May 8th. She had been in the water scarcely a week when I decided to make a run to Cape Charles, Virginia.

Of course, the Sterling big six was brand new and we gave her lots of oil. We were out eight days and covered over 500 nautical miles without so much as changing a spark plug, or touching a wrench to any part of the engine.

The "Barota" runs along at fifteen miles an hour and at the U.S. Govt. measured mile at Deepwater point I put her over the mile in exactly three minutes and fifty seconds against the tide which is 15.65 miles an hour. She is 45' long x 8' beam.

The "Baro" will go to Palm Beach, Florida, in the early Fall under her own power and I will use her there all winter in conjunction with "Sueño" my speed launch which has an 18-25 HP. Sterling installed and which gave eminent satisfaction all last winter.

Yours truly,

James K. Clarke
K. J. C.

Gold Challenge Cup

Frontenac Yacht Club Course, St. Lawrence River, Aug. 8-9-10, 1911.

Won by Mit II, equipped with a 130 H. P. Sterling the power plant that finished the three races without engine trouble.

AT PEORIA

Western Power Boat Association, July 25-26, 1911.

Disturber II, equipped with two 130 H. P. Sterlings made the fastest official time ever made by any boat in America in competition—5 miles at the rate of

37.68 miles an hour

AT DUBUQUE

Mississippi Valley Power Boat Association, July 3-4-5-6, 1911.

40-Foot Western Championship won by Disturber II—prize value \$2500.00

RECORD FOR SPEED made by Disturber II—running the fastest mile on an official course ever made in this country.

38.7 miles an hour

AT PALM BEACH

Palm Beach Power Boat Association, March 14-15-16-17, 1911.

T and S, equipped with a 100 H. P. Sterling won the long distance endurance speed contest, a distance of 119.18 miles. 28.11 M.P.H., AVERAGE SPEED.

Ace II, equipped with a 100 H. P. Sterling

Won the six 1-mile speed trials.
32.11 M.P.H. AVERAGE SPEED.

Sterlings have Won all Important Events

STERLING ENGINE COMPANY

1254 Niagara St., Buffalo, N. Y.

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